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REINHARD KNUTH

1874 - 1957

H. Melchior (Berlin-Dahlem)

Am 25. Februar verstarb nach fast 4-jähriger schwerer Krankheit PROF. DR. REINHARD KNUTH im 83. Lebensjahr. Ein langes, schaffensfreudiges, der Arbeit gewidmetes Leben hat damit seinen Abschluß gefunden, das aber auch reich an Erfolgen gewesen ist.

REINHARD KNUTH wurde am 17. November 1874 in Berlin geboren. Hier verbrachte er seine Kindheit und seine Schulzeit und bestand 1893 die Abschlußprüfung. Der Beruf des Vaters dürfte die Veranlassung gewesen sein, daß der Sohn sich ebenfalls dem Lehrerberuf zuwandte und seinen Neigungen entsprechend an der Friedrich-Wilhelms-Universität in Berlin Naturwissenschaften, insbesondere Botanik und Zoologie studierte. Nach Ablegung seiner Staatsprüfung 1898 begann er seine Doktorarbeit noch im alten Botanischen Museum in Berlin-Schöneberg bei A. ENGLER und promovierte 1902 zum Dr. phil. mit der Dissertation: Über die geographische Verbreitung und die Anpassungserscheinungen der Gattung *Geranium* im Verhältnis zu ihrer systematischen Gliederung.

Von 1900 bis 1905 war KNUTH als Oberlehrer in Breslau tätig, arbeitete gleichzeitig an dem dortigen Botanischen Institut bei F. PAX und zusammen mit ihm an der Monographie der *Primulaceae*. 1905 kehrte er nach Berlin zurück, wirkte zunächst als Studienrat an der Leibniz-Oberrealschule in Berlin-Charlottenburg und übernahm 1919 als Oberstudiendirektor die Leitung der Siemens-Oberrealschule. 1912 erhielt er den Titel Professor. Beim Erreichen der Altersgrenze wurde er 1937 pensioniert.

Die Schultätigkeit allein genügte dem äußerst regsamen und arbeitsfreudigen KNUTH nicht, sodaß er nach seiner Rückkehr aus Breslau sofort seine wissenschaftliche Tätigkeit als freiwilliger Mitarbeiter am Botanischen Museum in Berlin-Dahlem unter A. ENGLER aufnahm und hier im Kreise der Wissenschaftler des Instituts den vielseitigen Konnex fand, den er suchte und der seiner ganzen Veranlagung entsprach. KNUTH nahm regen Anteil an den wissenschaftlichen Aufgaben und Bestrebungen des Museums. So führte er die monographische Bearbeitung einer ganzen Reihe von Pflanzenfamilien durch, deren viele Neueingänge laufend von ihm bestimmt und in entsprechenden Publikationen behandelt wurden. Im "Pflanzenreich" erschienen: 1905 die *Primulaceae* (zusammen mit F. PAX in Breslau durchgeführt), 1910 die *Geraniaceae*, 1924 die *Dioscoreaceae*, 1930 die *Oxalidaceae* und 1939 die *Barringtoniaceae*, *Lecythidaceae* und *Asteranthaceae*. KNUTH gab ferner in den "Initia Florae Venezuelensis" (in Fedde Repert. Beih. 43, 1928) eine wertvolle Zusammenstellung und Übersicht der bis dahin aus Venezuela bekannt gewordenen Arten. In der Neuauflage der "Natürlichen Pflanzenfamilien" bearbeitete er die

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Dioscoreaceae (Bd. 15a, 1930) und die *Geraniaceae* (Bd. 19a, 1931). Zur Vervollständigung seiner systematischen Studien besuchte KNUTH die Herbarien in London-Kew, Paris, Genf, Brüssel und Utrecht. Auch sonst ging er gern auf Reisen, um die Vegetation der verschiedenen Gebiete der Heimat und die anderer Länder (z.B. Karpathen, Algier) aus eigener Anschauung kennen zu lernen.

KNUTH war kein einseitiger Botaniker, sondern auch in der Zoologie, der Chemie und Geographie gut bewandert. Wenn auch in der Botanik sein Hauptinteresse der Systematik und Pflanzengeographie galt, so beschäftigten ihn daneben auch die anderen Disziplinen und in den letzten 30 Jahren bestimmte Fragen der Bakteriologie, insbesondere Probleme des Wachstums der Actinomyceten.

Sein eigenes umfangreiches Herbar (26000 Nummern) und seine Separatensammlung fielen bei der Zerstörung des Dahlemer Botanischen Museums in der Nacht vom 1. zum 2. März 1943 den Flammen zum Opfer. Dieser Schicksalsschlag traf auch KNUTH, der sich auf das engste mit dem Museum verbunden fühlte und hier seine wissenschaftliche Arbeitsstätte gefunden hatte, besonders schwer. Vernichtet wurden außerdem alle seine wissenschaftlichen Aufzeichnungen und eine Reihe von Manuskripten, darunter die druckfertige Monographie der *Elaeocarpaceae* für das "Pflanzenreich".

KNUTH war ein stiller, zurückhaltender und äußerst bescheidener Mensch, ein aufrechter und untadeliger Charakter, durchdrungen von einem tiefen Pflichtbewußtsein und einem ausgeprägten Sinn für Ordnung und Gerechtigkeit. Er war ein Mann, der ganz in seinem Beruf und in seiner wissenschaftlichen Tätigkeit aufging, hochgeachtet bei seinen Schülern und Kollegen. In Gesprächen mit ihm offenbarte sich sein scharfer, zur Kritik neigender Verstand, der gern mit einer leichten Ironie die Schwächen der Menschen zu geißeln wußte.

Die Botanische Wissenschaft verliert in REINHARD KNUTH einen fähigen, kenntnisreichen Systematiker, der durch seine umfassenden und grundlegenden Arbeiten unsere Kenntnisse vieler polymorpher Pflanzengruppen wesentlich gefördert hat. Das Botanische Museum in Berlin-Dahlem gedenkt seiner in Dankbarkeit für die treue und uneigennützige Mitarbeit in über 50 Jahren.

ACHILLE RICHARD'S "MÉMOIRE SUR LA FAMILLE DES RUBIACÉES"

William T. Stearn (London)

Since the days of Linnaeus, Jacquin, Dryander and Swartz it has been traditional among botanists of integrity and standing to make their unpublished material available to one another freely and to use such material fairly, honestly and with grateful acknowledgment. This openhanded co-operation has saved our *scientia amabilis* many superfluous names. Inadvertently, however, it has created a few minor bibliographical problems for nomenclaturists uncertain how to attribute names taken and published by one author from the manuscript of another. The matter is not so much one of giving credit as of allocating responsibility and indicating the type. Ethical considerations apart, a distinction should be made, for purposes of typification of the name concerned, between a botanist who provides a description or detailed notes on distinguishing features and one who merely writes a provisional name on an herbarium label or communicates a specimen bearing such an unpublished name. The type material is that used by the person responsible for the description or diagnosis, who may or may not be the publishing author, and thus the conjunction

ex or *in*, when used in citing authorities, carries an implication as to the type. Assessing the responsibility for such names requires, of course, some knowledge of the events associated with them, which may not be always or easily available. The important memoir on the Rubiaceae by Achille Richard (1794—1852) provides an example.

On 7 July 1829 Richard read to the Académie royale des Sciences at Paris his "Mémoire sur la famille des Rubiacées, contenant la description générale de cette famille et les charactères des genres qui la composent". There has been some doubt as to the date of effective publication of this work, which occupies pp. 81—304 of volume 5 of the *Mémoires de la Société d'Histoire naturelle de Paris*. This volume is dated '1834' and was evidently published as a complete volume in that year; it is listed in *Bibliographie de la France* 23 (26): 416 (28 June 1834). A note on the verso of the half-title states that "l'impression du présent volume a été commencée au mois d'avril 1829. Sa publication a été retardée par l'effet de circonstances commerciales indépendantes de la société." Nevertheless Augustin Pyramus DeCandolle cited correctly in September 1830 (*Prodromus* 4: 341—621) pages of this volume not published until the middle of 1834! The explanation is to be found in the preface to a separate edition of his "Mémoire" issued by Richard in December 1830.

Aware of Richard's unpublished work on the Rubiaceae, DeCandolle asked him for particulars in order to avoid a conflict of nomenclature between this and the account of the family in the *Prodromus* likewise then unpublished. Richard generously sent him the manuscript and the proposed forty five illustrations, of which only fifteen were ultimately published, and later the paged proofs. Thus DeCandolle was able to cite Richard's work with precision ahead of its actual issue. Both authors had their works in the hands of printers at the same time and DeCandolle obviously assumed that Richard's would come out first, as it would have done but for the unfortunate circumstances indicated above. Actually, as Richard stated in his preface of 1 December 1830 "différentes circonstances indépendantes de notre volonté ont retardé jusqu'à ce jour l'apparition de notre travail, et dans cet intervalle le quatrième volume du *Prodromus*, contenant entre autres familles, celles des Rubiacées, a été mis au jour. Il est résulté de ce concours de circonstances, que bien que notre travail fût antérieur à celui du savant professeur de Genève, cependant le sien ayant été publié le premier, semblerait avoir sur le nôtre la priorité." Since, however, DeCandolle had adopted Richard's names and attributed them to him, little conflict in nomenclature resulted. Comparison shows that DeCandolle incorporated Richard's descriptions in his own, sometimes adding a few details, sometimes making only changes of a grammatical nature to accord with the style of the *Prodromus*, converting, for example, Richard's ablative "seminibus distinctis subpolyedris, aureo et adpresso sericeis" into the nominative "semina distincta subpolyhedra aurea et adpresse sericea." Responsibility for these names thus rests primarily upon Richard, whose types are at Paris.

In accordance with the printing custom of the time the separate edition of Richard's "Mémoire" received an independent pagination. It should be treated bibliographically as an independent book of 1830, reprinted, with a different pagination, in the journal of 1834. To co-ordinate references, 80 should be subtracted from the page-number of the *Mém. Soc. Hist. Nat. Paris* (1834) to get the page-number of the *Mém. Rubiac.* (1830) and 80 added to the page-number of the *Mém. Rubiac.* to get the page-number of the *Mém. Soc. Hist. Nat. Paris*. In this memoir Richard proposed sixteen new genera and many new species and amended the definitions of many genera already known; it thus has considerable nomenclatural importance. The sequence

of publication of the works concerned can be summarized by citing them as follows "— A. Rich. in DC. Prodr. 4: — (Sept. 1830); A. Rich., Mém. Fam. Rubiac. — (Dec. 1830), reimpr. in Mém. Soc. Hist. Nat. Paris 5: — (1834)."

The DeCandolles were equally liberal with their own work. Thus Alphonse DeCandolle placed his own and his father's manuscript on the families Bignoniaceae, Boraginaceae, Campanulaceae, Ericaceae, Pedaliaceae etc. at the disposal of Carl Friedrich Meisner when the latter was preparing his *Plantarum vascularium Genera* (1836—43) and a number of genera proposed by them and by Martius were accordingly published in Meisner's work, a fact partly overlooked by the compilers of the *Index Kewensis*. An enquiry into the issue of Meisner's *Genera* shows that this work appeared in 14 parts, each containing a section of the *Tabulae diagnosticae* and a corresponding section of the *Commentarius*. Part 7, containing *Tab. diagn.* 221—256, *Comm.* 137—160 (Aug. 1839), antedates *Prodromus* 7 (Dec. 1839); part 8, containing *Tab. diagn.* 257—284, *Comm.* 161—192 (April 1840), and part 9, containing *Tab. diagn.* 285—312, *Comm.* 193—224 (Nov. 1840), antedate *Prodromus* 9 (Jan. 1845) and 10 (April 1846). Among such genera first published by Meisner are Adenocalymna, Anemopaegmia, Antiphytum, Craterotecoma, Cybistax, Distictis, Edraianthus, Harpagophytum, Heterochaenia, Ischnia, Macrotomia, Moritzia, Oxydendrum, Pectocarya, Pentacarya, Pithecoctenium, Sparattosperma and Suchtelenia. Lacking illustrations and of an awkward folio size Meisner's work, which provides the general keys lacking in DeCandolle's *Prodromus*, has been unduly overlooked and neglected and seems almost unknown to present-day systematists.

THREE PROPOSALS TOWARD STABILIZATION OF BOTANICAL NOMENCLATURE

Elbert L. Little, Jr. (Washington)

Stabilization of botanical nomenclature will be one of the most important subjects for the Nomenclature Section of the Ninth International Botanical Congress at Montreal in 1959. I wish to offer three proposals for consideration as amendments to the International Code of Botanical Nomenclature of 1956: (1) *nomina specifica conservanda;* (2) rejection of obscure, ineffectively published names; (3) listing in Index Kewensis and Supplementa. These proposals are hereby submitted to the rapporteur-général for publication in Taxon and for presentation to the Montreal Congress in 1959 (Code, Division III). Adoption of these or other measures toward stabilization would result in greater cooperation and improved relationship between taxonomists and workers in other branches of plant sciences, would bring greater support for taxonomic work, and would really make the Code stronger.

My first two proposals were submitted to and endorsed by Section 22 (Study of Forest Plants) of the International Union of Forest Research Organizations at its Twelfth Congress, Oxford, July 1956. An article on the second proposal was mimeographed and given advance circulation and afterwards published (Scientific nomenclature of forest trees. Unasylva 10: 183—185. 1956). These proposals are revisions of those submitted to the Stockholm Congress in 1950 (Phytologia 2: 451—456. 1948; 3: 87—100. 1949; Synops. Proposals Seventh Internat. Bot. Congr. Stockholm 40. 1950). The Society of American Foresters, with membership of more than 11,000 professional foresters, through its Council has endorsed in principle these and other means toward stabilization of important tree nomenclature (Journ. Forestry 53: 55. 1955; 54: 62. 1956; Taxon 4: 20. 1955; 5: 18. 1956).

At the Paris Congress in 1954, a Special Committee on Stabilization was elected (Taxon 3: 191, 214, 219—220. 1954; 4: 145. 1955). Also carried by a considerable majority was a resolution "that something should be done" to solve the present problems of nomenclatural instability, expressing the conviction that a change might be accepted but that up to now the right proposal had not yet been presented. Two proposals toward stabilization gained preliminary approval but were defeated by small margins in the final voting (Taxon 1: 78—80. 1952; 3: 149, 184—190, 219—220. 1954; 4: 138—145. 1955; Regnum Vegetabile 4: 42, 90—91. 1954; 5: 17—24. 1954).

J. S. L. Gilmour, Director, University Botanic Garden, Cambridge, Great Britain, chairman of this Special Committee on Stabilization (Taxon 3: 243—244. 1954) listed five possible lines of approach discussed at Paris, from one or more of which acceptable proposals would seem likely to be evolved: (a) *nomina specifica conservanda;* (b) *nomina specifica rejicienda;* (c) banning of certain books; (d) banning of names not taken up after a certain date; (e) recognition in the rules of "economic names" in addition to the strictly correct "botanical names."

The trend away from priority toward conservation or names on basis of usage was reviewed by H. W. Rickett (Expediency vs. priority in nomenclature. Taxon 2: 117—124. 1953), who proposed that a name be rejected if it has no type (Taxon 2: 213. 1953). H. W. Rickett and W. C. Camp (Toward nomenclatural stability. Taxon 4: 37—40. 1955) discussed objections to all five lines of approach listed by Gilmour and proposed the following new article: "No name, even if prior, may displace a hitherto accepted name unless it is associated with a holotype cited in the original place of publication." Though also with objections, this proposal related to Art. 35 might be clarified further and merits consideration. "Hitherto accepted" is vague and subject to different interpretations by those who wish to change a name and those who do not. Because the Rules are retroactive (Principle VI), this proposal when applied to long forgotten name changes of the past would increase confusion.

NOMINA SPECIFICA CONSERVANDA

Widely used names that under a strict application of the Code should be replaced by less known names could be retained by individual action according to their merits and degree of acceptance, either: (1) as *nomina specifica conservanda* through extending Art. 14 on conservation of names to species; or (2) by rejection of the less known names as *nomina specifica rejicienda* under an addition to Chapt. V, Sect. 6, on rejected names.

The proposal for *nomina specifica rejicienda* (Art. 78 bis) was made and amended by British botanists before the Paris Congress (Dandy, J. E., Gilmour, J. S. L., Sprague, T. A., and Wakefield, E. M. Committee to deal with urgent nomenclatural needs. Memorandum by British members. Taxon 1: 78—80. 1952; Bullock, A. A., and others. *Nomina specifica rejicienda.* Taxon 3: 149. 1954; Rec. Synopt. Huit. Congr. Internat. Bot. Paris 90—91. 1954). Like many others, this proposal might be made clearer and simpler. As stated, it would apply only to certain limited conditions of overlooked or little-used earlier synonyms and names used for well-known species of Spermatophyta found on examination of type to apply to another species. In principle it would prevent future undesirable changes and not be retroactive, though as amended would permit rejection of names recently brought into use if not adopted in an important work. It would not apply to homonyms; indeed, the rejected names could cause rejection of any later homonyms.

Advantages given for *nomina specifica rejicienda* over *nomina specifica conservanda* are: (1) greater support at past Congresses and greater likelihood of adoption;

and (2) easier preparation of lists, because typification of names is not required (except under Art. 14, Note 2). However, the disadvantages are: (1) Stabilization by rejection of names individually is a negative, indirect approach and does not settle the nomenclature of any important species. (2) Rejection of more than one name might be necessary to retain another. (3) A rejected name later might be found to apply to a different species, possibly otherwise unnamed. (4) Lists of other rejected names provided for in the past, such as in the Rules of 1935, were never made and have been abandoned. In my opinion these disadvantages much outweigh the advantages mentioned. Besides, support for *nomina specifica conservanda* has also increased materially, and the principle of *nomina conservanda* (Art. 14) has been applied successfully to genera for more than half a century.

The main argument against conservation or rejection of specific names, as summarized by Rickett and Camp, is that the proposal would be impractical and would necessitate a vast force of clerical botanists for the bibliographic research. Those taxonomists stated that perhaps if it were practicable to limit the number of conserved names in some way, the principle could be accepted. They feared that the list would be of indefinite length, exceeding proportionately the large number of conserved generic names. It would be difficult to limit the list to "economic plants," which cannot be rigidly defined and which are subject to change.

Having previously discussed arguments for and against *nomina specifica conservanda* (Phytologia 3: 90—100. 1949), I shall reply briefly to these objections. Fortunately, proposals now are expedited through the permanent central office of the International Association for Plant Taxonomy, the International Bureau for Plant Taxonomy and Nomenclature, and the periodical Taxon.

Both the number of names submitted and the amount of clerical work can be reduced by requiring the proposer to do the greater part of the work in presenting his "detailed statement" (Art. 14, Note 1) after "adequate taxonomic study" (Preamble) in accordance with instructions and within a specified time, such as a year in advance of a Botanical Congress. No complaints about the amount of work have come from the proposers. Photographs of the type specimen or substitute should be required, as I suggested in 1949. Proposals not properly submitted should be rejected automatically.

The bibliographic research in conservation of names actually will save time by settling questions of nomenclature and typification and by eliminating repeated checking of the same names. For example, the published list of conserved generic names contains several for which conservation is unnecessary but which serve for reference.

Examination and approval by the General Committee, other committees, and a later Botanical Congress would serve to keep the list within reasonable limits and to prevent any "flood" of conserved specific names. The number of proposals should diminish greatly after a few Congresses, as in generic names of Spermatophyta. For example, only 53 generic names of Spermatophyta have been conserved from those submitted at Stockholm (Taxon 3: 156, 233. 1954; 4: 118. 1955). Forty-four more were proposed at Paris in 1954, some of which will be rejected (Rec. Synopt. Huit. Congr. Internat. Bot. Paris 118—119. 1954; Taxon 3: 157. 1954). Now, the proportion of proposals rejected is high, as observed by F. A. Stafleu (Nomenclatural conservation in the phanerogams. Taxon 5: 85—95. 1956).

The increased number of conserved generic names at the more recent Congresses has been mostly in lower plants not thoroughly checked earlier and in homonyms. Of the 845 *nomina generica conservanda* of Spermatophytes in the Code (p. 220—279. 1956), approximately 285, or slightly more than one-third, are conserved because of earlier homonyms. Thus, one-third of the list is a result of the adoption of the

homonym rule in 1930. That change in the Code was made with the definite understanding that all wellknown generic homonyms should, as far as possible, be adopted as *nomina conservanda* to reduce the number of changes in names (Rehder, A., Weatherby, C. A., Mansfeld, R., and Green, M. L. Conservation of later generic homonyms. Kew Roy. Bot. Gard. Bul. Misc. Inform. 1935: 341—544. 1935). Unless radical changes should be made in the Code, the number of specific names proposed for conservation should show a similar decline.

The number of old publications with obscure names does have a limit. Few names will escape the better indexing and bibliographic services of the future, while most of those overlooked could be rejected by some other rule, such as lack of Latin diagnosis (Art. 34), failure to indicate type (Art. 35) or rank (Art. 44), or my second proposal for rejecting names not accepted or indexed within fifty years.

Therefore, I propose to amend Art. 14 [1]) (International Code of Botanical Nomenclature, 1956) to provide for *nomina specifica conservanda* (*epitheta specifica conservanda*) or conserved specific epithets by inserting the word "species," before "genera" in the first sentence to read as follows: "However, in order to avoid disadvantageous changes in the nomenclature of species, genera, families, orders, and intermediate taxa entailed by the strict application of the rules, and especially of the principle of priority in starting from the dates given in Art. 13, this Code provides, in Appendix III, lists of names that are conserved (*nomina conservanda*) and must be retained as exceptions."

After the second sentence of Art. 14, insert the following sentence: "Also, these specific names will be restricted to a limited number of species of outstanding economic importance and species otherwise widely known."

After Art. 14, Note 2, add the following sentence: "Any proposal of a specific name must cite the holotype, lectotype, or neotype and must be accompanied by ten copies of a photograph of this specimen for study and distribution."

After Art. 14, Note 6, add the following note: "Note 7. In *nomina specifica conservanda* (*epitheta specifica conservanda*) the specific epithet is conserved against other specific epithets for the same species. The binary combination and generic name are not conserved, but the generic name and specific epithet may be conserved independently."

The following examples, subject to later formal proposal and acceptance, are suggested as additions to Art. 14 and meanwhile as illustrations: "The specific epithet of *Picea excelsa* (Lam.) Link (1841; otherwise illegitimate under Art. 64 as nomenclaturally superfluous when published) is conserved against *Picea abies* (L.) Karst. (1881) and against the basionym *Pinus abies* L. (1753). If *Picea* were reunited with *Pinus,* the binary name would be *Pinus excelsa* Lam. (1778; also nomenclaturally superfluous when published). — *Eucalyptus rostrata* Schlecht. (1847) is conserved against *E. camaldulensis* Dehnh. (1832) and against the earlier homonym *E. rostrata* Cav. (1797). — *Sequoia gigantea* (Lindl.) Decne. (1854) is conserved against the earlier homonym *Sequoia gigantea* Endl. (1847). If the genus *Sequoia* Endl., *nom. conserv.*, is divided, the binary name for this species becomes *Sequoiadendron giganteum* (Lindl.) Buchholz. — *Pseudotsuga taxifolia* (Lamb.) Britton (1889) through its basionym *Pinus taxifolia* Lamb. (1803) is conserved against *Pinus taxifolia* Salisb. (1796)."

Thus, relatively few changes would be needed to expand Art. 14 for specific names or more precisely specific epithets. Any questions about nomenclature, such as typification, would be settled officially, definitely, and finally when conservation is approved by a Botanical Congress. A central file of photographs of the type

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1) Proposal No. 1 submitted to the 9th International Botanical Congress, Montreal 1959.

specimens could be maintained with duplicates subject to loan. Copies would be distributed to representative botanical institutions, such as to committee members checking the proposals. The list of conserved names with types and photographs would be a useful reference.

Under Art. 14, Note 3, a conserved specific epithet is conserved against all other specific epithets of species including the same type specimen. When a species with a conserved name is united with another bearing a legitimate name, the oldest legitimate specific epithet is retained for the species including the type specimen (Art. 57). When a species with a conserved name is divided, the conserved specific epithet is retained for the species including the type specimen (Art. 53). The conserved specific epithet will become a more or less fixed tool based upon a definite type, like a conserved generic name, and will be subject to change only if the species is divided or united with another species having an older name.

There would be no advantage in conserving a binomial or binary name. To conserve combinations would be impractical, confusing, and unnecessary. Concepts of generic limits are not subject to regulation under Art. 14 nor any other articles. With at least a few conserved specific epithets there would be a choice of generic names accepted in use, depending upon the generic limits followed. If a genus containing a conserved specific epithet is divided and if the generic name for this species is changed, the old combination still would be in accord with the Code and probably would remain in use. If later discovered to be illegitimate, the generic name associated with a conserved specific epithet could be conserved also.

Retroactive and not limited to synonyms, this proposal is flexible and could be applied individually to names affected by earlier homonyms or other rules or even by unforeseen future changes in the Code. For example, *Pseudotsuga taxifolia* (Lamb.) Britton and *Sequoia gigantea* (Lindl.) Decne., were made illegitimate by the changed homonym rule in 1930. A check of the nomenclature reveals that *Betula lutea* Michx. f. technically was superfluous when published (Art. 64). Several other familiar names of uncertain application, originally containing two elements both considered as types by different specialists or lacking a type specimen, could be typified under this proposal.

REJECTION OF OBSCURE, INEFFECTIVELY PUBLISHED NAMES

To prevent future revival of abandoned, overlooked names in obscure old publications to upset names established in usage, I wish to propose the following new article as an amendment under Chapter IV, Section 1, Conditions and dates of effective publication:

"Article 31 bis.[2]) *In Spermatophyta a generic or specific name more than fifty years old is rejected as not effectively published when it neither has been accepted by a second author nor has been cited in an index of scientific names within fifty years after publication or by 1 Jan. 1960, if published before 1910.*"

This proposal provides for the automatic rejection of obscure old names more than fifty years old, as though they never had been published. Stressing effective publication rather than rejection of individual names, it is related also to Chapter V, Section 6, Rejection of names and epithets. Just as microfilm is not accepted (Art. 29), names in obscure or rare works not afterwards adopted or indexed likewise do not meet the conditions of effective publication.

Under this proposal an obscure old scientific name of a species or genus could not be revived to upset usage unless it either has been accepted by a second author or listed in an index of scientific names before 1960. All names heretofore adopted by a second author and future names so recognized within fifty years after the first

[2]) Proposal No. 2 submitted to the 9th International Botanical Congress, Montreal 1959.

publication would not be affected. Likewise, this proposal would not apply to all names already cited in Index Kewensis and Supplementa as well as all names in Gray Herbarium Card-index and other indexes of nomenclature.

The date 1910 is added to prevent the rule from becoming retroactive. Names published between 1753 and 1910 have had from fifty to more than two hundred years for adoption. Every name published after 1910 would be granted fifty years time in which to be indexed or accepted by a second author before it could be rejected. Ambiguities of a proposal considered in 1954 about "currently accepted" names and those "not taken up in a botanical paper published since 1900" are avoided.

The time interval of fifty years is believed to be the most satisfactory but could be changed if desired. As a precedent, names of genera, families, and orders to be conserved are preferably such as have come into general use in the fifty years following their publication (Art. 14). A few foresters have suggested a shorter period. However, a reasonable number of years is required for cataloguing and publishing indexes and for contemporary workers to become familiar with new names, evaluate them, and check the nomenclature and synonymy. Also, a name in print only a few years has not become widely established in usage and could be changed without much confusion.

A desirable feature is placing the responsibility for the rejection of an obscure name upon its author for not publishing it effectively in a medium available to contemporary botanists. For practical purposes, an old name that has escaped all indexes and remained unrecognized by anybody has not been published. Certainly any scientific name of seed plants now more than fifty years old that cannot meet one of the two modest qualifications of either acceptance by a second author or discovery by a bibliographer for an index was not effectively published in the first place! Whether or not the work was rare or primarily for others, obviously something was wrong with the distribution or circulation of the original printed matter in its failure to reach the general botanical public (Art. 29 and Rec. 29A). Even where deliberately ignored by contemporary authors because of prejudice or other reasons, names in printed matter distributed to the general botanical public would have been picked up by later indexers before now.

Under this proposal an obscure old name has no status in nomenclature but is simply ignored somewhat as a *nomen nudum*. It is unnecessary to deliberate upon whether to restore the newly discovered old name or even to establish its synonymy or type, though it could be cited as an ineffectively published synonym if desired. No list of these rejected names is needed. A taxonomist discovering a specific name more than fifty years old omitted from Index Kewensis and Supplementa is not required to make any further search of botanical literature to determine whether the name was used again or indexed elsewhere. There would be no need to conserve generic names upset by future discovery of earlier unindexed synonyms.

The burden of proof is upon anyone wanting to revive an obscure old name. He could not resurrect the name to upset existing nomenclature unless by searching through botanical literature he could find the name listed in an index or accepted by a second author. If an author should revive an old name in violation, then this later publication would be the date of effective publication.

It has been argued that second use of the name might eventually be found (for example, Rickett, H. W., and Camp, W. H. Taxon 4: 37—40. 1955). However, every name now accepted, except the conserved generic and family names, is subject to the risk of reduction to synonymy at any time through discovery of an old name in a rare work. This proposal would reduce the probability very significantly to the low frequency of two rare events instead of one, the original publication and a second acceptance or listing.

One question raised is that some names of taxonomic groups of small size or restricted geographic distribution might pass a half century known but dormant because later botanists might have no occasion to refer to them. However, these names would be protected merely by listing in Index Kewensis and Supplementa. The numerous unused names published by Constantine S. Rafinesque in rare works ignored by contemporaries would be exempted through listing in E. D. Merrill's Index Rafinesquianus (1949).

Though restricted to Spermatophyta and to names of genera and species, where stabilization is most needed, this proposal could be extended to all plants and all categories if desired. However, names in most lower plant groups and in other categories, such as varieties, are less thoroughly indexed. A rule without restriction might cause automatic rejection of some old unused varietal names, but dropping of these old untypified varietal names might help clarify future nomenclature.

This proposal should not be confused with those to conserve or reject specific names and should be acceptable even to taxonomists who oppose the latter. Conservation or rejection of specific names could become of somewhat broader application and would require in each case special action individually by an International Botanical Congress.

LISTING IN INDEX KEWENSIS AND SUPPLEMENTA

Another line of approach would be to reject all old specific and generic names published before a certain date that have not been listed in Index Kewensis and Supplementa up to a certain volume. In 1950, H. A. Gleason offered amendment of this kind after proposals for the Stockholm Congress had already been printed. The third proposal is:

Art. 31 ter.[3]) *To be effectively published, a name of a genus or species of Spermatophyta published before 1900 must have been cited in Index Kewensis including Supplementa I to XI.*

As Supplementum XI printed in 1953 covered the period from 1941 to 1950, all names obscurely published before 1900 have had a 50-year period in which to be detected and indexed. This proposal is somewhat more restricted than the second, is included within the latter, and would be unnecessary with adoption of the latter. However, the third proposal alone would contribute significantly toward stabilization of nomenclature and may receive wider support because of its narrower application.

This proposal has several obvious advantages. It is simple, definite, and easy to follow. Limited to names of Spermatophyta before 1900, it is neither retroactive nor applicable to names published after that date. No individual action or list of names is needed, and no typification is involved.

A slight inconvenience is that before using an old name for the first time, one might wish to verify its listing in Index Kewensis and Supplementa. This might involve search in as many as 18 places, Index Kewensis, Supplementa I—XI, and 6 lists of Addenda et Emendanda in volumes 1 and 2 and Supplementa I and II. However, nearly all names published before 1900 were accounted for by the end of Supplementum II covering that year. Only a few minutes of time well spent would be needed, less for most names.

Indexing means protection against older unlisted names, though not against older listed names. Possibly a very few old names established in usage might have escaped indexing, even though overlooked names are added to later Supplementa promptly upon discovery. A few names upset by unlisted names since 1950 would be restored. If confusion might result, the date could be extended to 1955 by including Supplementum XII, not yet published.

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[3]) Proposal No. 3 submitted to the 9th International Botanical Congress, Montreal 1959.

SUGGESTIONS TO MAINTAIN THE STABILITY OF NOMENCLATURE AT THE SPECIFIC LEVEL

Maria Buchinger (Buenos Aires)

As a result of the current intense activity in the field of botanical taxonomy, changes in the scientific names of plants are common. Though it is inconvenient to use these "new" names, no botanist would dream of continuing to use the old and wrong ones. Some of the plants whose names have been changed recently are of economic value, and their "new" names have been most unfavourably received by horticulturalists, foresters and other practical botanists. To consider the problems raised by name-changes at the specific level, a Special Committee on Stabilization has been appointed.

One of this Committee's duties would be to consider the possibility of establishing lists of standard names of economically useful plants. Little (Unasylva 1956: 194) has made a most useful proposal concerning the rejection of specific names and epithets not used for 50 years after their original publication; unfortunately such a provision could only be applied in cases where the neglected name and that in common use refer to exactly the same species with the same range of distribution.

However, when all the changes of name are considered, it is evident that only a small proportion are due to the discovery of earlier synonyms. Far more frequently, the change is for one of the following reasons:

1. Plants described from different regions are found to be identical. This is especially frequent in species with a wide geographical distribution (cf. the synonymy of *Cedrela mexicana* M. J. Roemer).

2. The names of species based on inadequate herbarium are often found to be synonyms of previously described species. (E.g. *Enneatypus nordenskjoeldii* described by Herzog, who saw only masculine flowers of a dioecious tree, is neither a new genus nor a new species but *Ruprechtia polystachya* Gris.).

3. Species placed in the wrong genus by their authors have to be transferred to the correct genus, which may even belong to another family. (E.g. the Virginia creeper, *Parthenocissus quinquefolia* (L.) Planch. was described by Linnaeus as *Hedera quinquefolia*).

4. In spite of good original descriptions, names are misapplied, or plants are incorrectly identified. (E.g., herbarium material of *Matzbya cleagnoides* Radlk. was determined as *Guarea trichilioides*; hence the latter species is often cited as occurring in Argentina in spite of the fact that its range of distribution does not reach our frontiers.

5. Change of rank without change of circumscription. Varieties become species, sections become genera, or vice versa. (E.g. *Populus tremula* L. and *Tremula vulgaris* Opiz).

6. Manuals and catalogues which use names without citing the herbarium material from which they have been drawn up are frequently responsible for giving currency to misused names.

It is quite evident that changes of name due to the causes listed above cannot be avoided by conservation. The conservation of specific names is moreover a much more difficult matter than the conservation of generic names, a generic name being a proper noun and unique in the plant kingdom, whilst specific epithets can be repeated in any number of genera; moreover they have frequently to be transferred from one genus to another, and if conservation is attempted, this is likely to lead to confusion.

Although the conserving of specific names is not possible, there are other means of maintaining stability of nomenclature at the specific level, all of which will tend to eliminate changes for the reasons listed above, viz.:

I. One of the most important, which would tend to eliminate the errors under 2), would be the publication of complete descriptions of new taxa. It is unfortunately the case that it is still quite frequent for descriptions of species to be based on incomplete or deficient herbarium material. A proposal that will avoid this is made below.

II. The errors under heads 1, 3 and 4 could be eliminated by thorough studies. The Committee should commission world monographs of genera containing economically important species; these monographs should be made by or in collaboration with scientists living in the area of distribution of the genera. As the plants to be studied are of actual economic importance FAO and the governments concerned would without doubt encourage such investigations.

III. Changes for reason 5 are very much the result of the personal views of the taxonomist concerned. Generally the circumscription of the taxon is not changed; only its rank is altered. The duties of the Committee for the Stabilization of Specific Names should include *fixing the rank* of economic and other frequently discussed plants.

IV. Workers in applied botany and related fields should have the nomenclature of their publications revised by a taxonomic institute; this would eliminate the errors under 6. (In the F.A.O. Forest Seed Directory, published in 1956, *Tabebuia pentaphylla* and *Tecoma pentaphylla* are listed as separate species, etc. The "Nomenclature des Bois Tropicaux", 1955, published by the Association Technique Internationale des Bois Tropicaux, should undergo thorough revision.

Both scientific botanists and practical agriculturalists, foresters, etc., will surely agree on the necessity of having a single International Code of Botanical Nomenclature which shall apply to *economic plants in the same way as to other plants*, since we do not know which of the latter will be found to have economic significance in the future.

Below we put forward a proposal accepted by a group of Argentine botanists working in the *Dirección de Investigaciones Forestales, Administración Nacional de Bosques.*

PROPOSAL

According to the Preamble of the International Code of Botanical Nomenclature, 1956 ed., the Code "aims at the provision of a stable method of naming taxonomic groups, avoiding and rejecting the use of names which may cause error or ambiguity or throw science into confusion. Next in importance is the avoidance of the useless creation of names."

It is evident that nomenclatural stability depends almost entirely on the correct description of taxa. According to Art. 39, the name of a genus is not validly published unless it is accompanied by a description of the genus, but no ruling is given about the way this description should be formulated. The only indication is given by Art. 41, according to which a plate or figure with analyses showing essential characters can act as a substitute for the description. No guidance about which characters ought to be considered as essential is given, however, and also this provision applies only to plates or figures published before 1 January 1908.

Unfortunately authors often base their descriptions on incomplete herbarium material. This always leads to difficulties, especially where trees or shrubs are concerned. The characters of the leaves (shape, dimensions, pubescence) depend greatly on their position on the tree, and differ as a consequence of this factor.

The establishment of a new taxon on small differences in the size of the leaf should only be permitted when there is well-documented evidence that the differences are not due to such a cause. (Cf. *Cabralea floribunda* Harms (1922) . . ." "vielleicht verwandt mit *C. glaberrima* A. Juss. die aber nach der Beschreibung grössere Blättchen hat").

The life form and habit of a plant are also characteristic and have high taxonomic value; nevertheless in some diagnoses they are not mentioned at all and in others the lack of precise information leads to very indefinite statements, which frequently lead to confusion. Similar obscurities arise when some organs are absent or immature in the herbarium specimens on which descriptions are based. (Cf. *Capparis longestipitata* Heine (1953) "frutex? . . . Fructus maturi desunt in specimine nostro", or *Creochiton kinabaluense* Heine (1953) "Arbor vel frutex? . . . bacca (immatura) cr. 2, 3 mm in diametro, ceteri characteres non certe describendi.") It is, however, not only botanists working in herbaria who give such incomplete descriptions but also, at times those who have the opportunity of making their observations in situ. (E.g. *Enneatypus*, mentioned above, was placed by Herzog near *Coccoloba*, whereas the creation of the genus was not justified; the type material was found to belong to a species of *Ruprechtia*).

In order to avoid future inconveniences of this sort we propose the inclusion of the following Article in the Code of Nomenclature [1]): *The description of a new taxon must be complete and include the characters of all organs in an adequate state of development, and of both sexes if the plant is dioecious. Should a complete description of a higher or the same rank exist (especially in the case of varieties or forms), it is only necessary to mention in the diagnosis of the taxon the characters in which it differs from that one.*

PROPOSED AMENDMENTS TO THE INTERNATIONAL CODE OF BOTANICAL NOMENCLATURE

Harold St. John (Honolulu)

5. Principle V. *Delete the wording*, "Scientific names of plants are Latin or are treated as Latin."

Replace it by: Scientific names of plants are commonly Latin or Greek, or if from other languages, they are often latinized.

Argument: Many generic names are Greek or of Greek origin and are in no way latinized, viz *Rhododendron, Anemone.* Large numbers of epithets are vernacular names from some non-classic language, used unmodified and without latinization. If such foreign epithets were really latinized, they would have Latin endings indicating case, number, and gender. Such is not the case, for instance, with: *Molle,* Peruvian vernacular name in *Schinus Molle* L.; *Quamash,* Nez Percé Indian name in *Phalangium Quamash* Pursh; *Koa,* Hawaiian name in *Acacia Koa* Gray; *Cous,* Nez Percé Indian name in *Peucedanum Cous* S. Wats.; *Kuranda,* Aboriginal Australian name in *Eugenia Kuranda* F. M. Bailey. Such names or epithets are valid. Others of this kind are still being published. The new wording recommended for Principle V more accurately states the nature of our valid plant names, and the desired Latin form for them.

6. Rec. 45G. *Instead of*, "The etymology of new names and epithets should be given when the meaning of these is not obvious."

To read: The etymology of new names and epithets should be given.

Argument: Though the derivation of a name or epithet may be obvious from the point of view of its author, it may be unknown or very obscure to botanists distant in place or time. It will be better to

[1]) Proposal No. 4 submitted to the 9th International Botanical Congress, Montreal 1959.

recommend that authors of all new names and epithets should give their readers help by stating the derivation of their newly published designations.

7. To Art. 46, *add* the following: If a larger number of persons jointly publish a new taxon, no more than the first three of the group will be cited as the authors of the name of the taxon.

Example: *Streptomyces albo-niger* Hesseltine, J. N. Porter, Deduck, Hauck, Bohonos & J. H. Williams, Mycologia 46: 19. 1954, will be cited as *S. albo-niger* Hesseltine, J. N. Porter & Deduck et al.

Argument: When a taxon is published by a large group of persons, as by the whole staff of an institution, it is unreasonable to require the use of all of the names in an author citation. There are several well known double and triple author combinations, such as Cham. & Schlecht., T. & G., H.B.K., and B.S.P. Three seems an adequate maximum of author's names to be used in a citation.

8. Art. 65. *Delete the article and examples.* It reads, "A name must be rejected if it is used in different senses and so has become a long-persistent source of error."

Argument: Rule 65 is vicious. No name or epithet is safe under it. It allows any name, no matter how well documented and proposed, to be rejected because some subsequent botanists have misunderstood or misapplied it. No name should be rejected on such a basis. If the name or its taxon are obscure, it will remain so for a time. In this circumstance it causes no trouble, as it is in the nomina inquirendae. If and when the evidence is available, it will be typified. No validly published name or epithet should be vulnerable to such a rule as Art. 65 which gives paramount importance to later misunderstandings. Any named taxon which is capable of typification should be judged on that basis. Art. 65 has no good features. It is wholly bad, and should be repealed.

9. Appendix IV, p. 294, 4c, in the last line of the paragraph, *for*: species; *read*: species or infraspecific taxa.

Argument: The coverage of this regulation should be for species and for all minor taxa, not merely for species.

Nomina conservanda:

(30) 2066. **Stenocarpus** R. Br. This is now in the official list.

Delete: T.: *S. forsteri* R. Br. [*S. umbelliferus* (Forst.) Schltr.], and *substitute:* T.: *S. forsteri* R. Br. [*S. umbelliferus* (J. R. & G. Forst.) Druce].

Argument: Robert Brown divided *Embothrium* J. R. & G. Forst., removing one of its two species to his new genus *Stenocarpus* which also consisted of two species. One of these was *S. salignus,* a new species from Australia. The second was *S. forsteri,* a renaming of the earlier *E. umbellatum* which Brown attributed to Forst., though it was first published by Linnaeus, the son, in 1781. The name *E. umbellatum* L. f. was an illegitimate renaming, based upon the earlier and available *E. umbelliferum* J. R. & G. Forst. By our International Code, such renamings are not permitted when the earlier epithet is available. The fact that Forster, the son, in 1786 bowed to the authority of Linnaeus, the son, and accepted *umbellatum,* instead of *umbelliferum* of J. R. & G. Forst., does not alter the fact that the two are different epithets and the adoption of the second one is not a permissible correction. In the 1952 Code, the type is given as resting on *S. umbellatus* (Forst.) Schltr. This is a synonym of the earlier *E. umbelliferum* J. R. & G. Forst. In the 1956 Code, the type is cited as: T.: *S. forsteri* R. Br. [*S. umbelliferus* (Forst.) Schltr.]. Schlechter made no such combination, rather he made *S. umbellatus* (Forst. f.) Schltr. The correct typification is that based on the earliest epithet, T.: *S. forsteri* R. Br. [*S. umbelliferus* (J. R. & G. Forst.) Druce]. This combination was published in Bot. Exch. Club, Brit. Is., Rept. 1916: 2nd. Suppl. 648. 1917.

(31) Proposal for the conservation of 4303. **Breynia** J. R. & G. Forster, Char. Gen. 145. *pl.* 73. 1776.

T.: *B. disticha* J. R. & G. Forst. (Euphorbiaceae).

Nomen rejiciendum propositum: Breynia L. Gen. Pl. ed. 5. 222. 1754. (= 3101 Capparis L.).

T.: *B. indica* L. Sp. Pl. 503. 1753. = *C. indica* (L.) Fawc. & Rendle, Journ. Bot. Brit. & For. 52: 144. 1914. (Capparidaceae).

Argument: *Breynia* J. R. & G. Forst. (1776) began as a monotypic genus. It was effectively published and has been generally adopted, as by Bentham & Hooker, f., Gen. Pl.; Engler & Prantl, Natürliche Pflanzenfamilien; Bailey, L. H., Standard Cyclop. Horticulture; Watt, Dict. Econ. Prod. India; Hooker, J. D., Fl. Brit. India; Ridley, H. N., Fl. Malay Penin.; Bentham & v. Mueller,

Fl. Australia; Koorders, Exkursionsfl. Java; Guillaumin, Fl. Nouvelle-Calédonie; Merrill, Enum. Philippine Fl. Pl.; et al.

Breynia L. (1754), a monotypic genus from the West Indies, was a close relative of *Capparis* L., and Linnaeus himself reduced it to the synonymy of *Capparis* in 1759. This reduction has been generally accepted, but the new name given it, *Capparis breynia* L. (1759), falls in the synonomy of *C. indica* (L.) Fawc. & Rendle. Though this name *Breynia* of Linnaeus is the earliest use of the generic name, it was reduced by its author, and botanical usage has concurred.

Breynia J. R. & G. Forst. is a later homonym, as indicated by Croizat in A. C. Smith, Sargentia 1: 48. 1942. Because of its almost universal acceptance since 1776, it is here proposed as a nomen genericum conservandum.

TYPIFICATION OF THE GENERA OF THE BAMBUSOIDEAE *

F. A. McClure (Washington, D.C.)**

Summary

The post-Linnaean names that have been applied to bamboo genera are listed, with authorship, place of publication and typification. Notes have been added in some cases where questions have arisen as to the status of the genus or of the type species.

For completeness, especially in the interest of beginners, the pertinent data concerning generic names that were not validly published (according to the International Code of Botanical Nomenclature), as well as those whose spelling requires correction or interpretation, are included. The typification of names not validly published may, by some, be deemed unnecessary, but I believe that the reader's perspective may be improved by the addition of this detail in such cases.

The author will be grateful to be informed of any case where a different type species than the one here designated for any given genus has been proposed elsewhere.

* * *

Achroostachys Bentham, Journ. Linn. Soc. 19: 134. 1881. — Error for *Athroostachys*, see Bentham, *in* Benth. & Hook. Gen. Pl. 3: 1208. 1883.

The genus was not validly published in 1881 (ICBN Art. 38, 39. 1956). Although Bentham (1883) referred to the genus as having been published in 1881 (with an erroneous spelling) it is to be noted that in 1881 he only mentioned a species on which the new genus was to be based; he presented no generic description and made no transfer of the specific epithet.

Arthrostylidium Ruprecht, Mém. Acad. St. Petersb. VI Sci. Nat. 3(1): 117. 1840 (p. 27 in preprint dated 1839). — Species typica generis, a Hitchcock electa: *A. cubense* Ruprecht, l.c. 118. *t. 4, f. 13.*

Ruprecht included five species in this genus. Hitchcock (Contr. U. S. Nat. Herb. 24: 307. 1927) designated a lectotype in the following words: "*Arthrostylidium cubense* Rupr. is accepted as the type species of the genus *Arthrostylidium*." Attention is directed to *A. cubense* by Ruprecht's special mention of it in the explanatory paragraph following the description of the genus.

Arundarbor O. Kuntze, Rev. Gen. Pl. 2: 760. 1891. — Species typica generis, nunc electa: *A. arundinacea* (Retzius) Kuntze, l.c. 761 (*Bambusa arundinacea* Retzius, Obs. Bot. 5: 24. 1789) [see *Bambusa* Retzius corr. Schreber].

The type species here designated is chosen on the strength of Kuntze's statement (l.c. 761) that Rumphius' genus "coincides entirely with *Bambusa*." Kuntze did not recognize 1753, the date fixed by the International Code, as the starting point for valid publication. *Arundarbor* Rumphius, Herb. Amb. 4: 1. 1743-47, is pre-Linnaean and therefore not validly published (ICBN Art. 13. 1956). The genus was not validly published by Kuntze, since he gave no generic description but only mentioned the subordinate taxa to be included in it (ICBN Art. 38. 1956). Even if it had been validly published by Kuntze,

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**) Consultant in Tropical Forestry, Maria Moors Cabot Foundation for Botanical Research, Harvard University.

the genus would be illegitimate, because it was superfluous when published, having been antedated by Bambusa, based upon the same species (ICBN Art. 64. 1956).

Arundarbor O. Kuntze ≡ *Bambusa* Retzius corr. Schreber.

Arundinaria Michaux, Fl. Bor.-Am. 1: 73. 1803. — Genus primo monotypicum; species typica generis: *A. macrosperma* Michaux, l.c. 74.

The authorship of this genus is by earlier writers (e.g. Kunth, Rev. Gram. p. 137. 1829) attributed to Richard. Martius (Fl. Bras. 1: 88. 1840) says of Louis Claude Marie Richard: "autor quoque est, saltem pro maxima parte, Florae boreali-americanae ab Michaux 1803 editae." Sargent (Proc. Am. Philos. Soc. 26: 6-7. 1889) refers to the Flora boreali-americana "which Richard drew up largely from the plants collected by Michaux in North America." However, no positive evidence that Richard was the author of the genus *Arundinaria* has come to light.

Athroostachys Bentham, *in* Benth. & Hook. Gen. Pl. 3: 1208. 1883. — Genus primo monotypicum; species typica generis: *A. capitata* (Hooker) Bentham, l.c. (*Merostachys capitata* Hooker, Ic. Pl. *t.* 273. 1840).

Atractocarpa Franchet, Bull. Linn. Soc. Paris 1(85): 675. 1887. — Genus primo monotypicum; species typica generis: *A. olyraeformis* Franchet, l.c.

Aulonemia Goudot, Ann. Sci. Nat. Bot. ser. 3. 5: 75. 1846. — Genus primo monotypicum; species typica generis: *A. queko* Goudot, l.c. 76. *t.* 4.

Hackel (*in* Engler & Prantl, Nat. Pflanzenfam. II(2): 93. 1887) transferred the type species to *Arthrostylidium* as *A. quexo*.

Bambos Retzius, Obs. Bot. 5: 24. 1789 (see Bambusa Retzius corr. Schreber). — Genus primo monotypicum; species typica generis: *Bambos arundinacea* Retzius, l.c.

The type species was based by Retzius on a specimen made up of two distinct species mounted on a single sheet. The long-lost type (Fischer, Kew Bull. 1932: 50, 76. 1932; McClure, Blumea Suppl. III: 90-112. 1946; Holttum, Taxon 5: 26-28, 65-67. 1956) has recently been found by Dr. Tycho Nordlindh, Keeper of the Botanical Museum at Lund. It was examined by Dr. Holttum at Kew, and subsequently was sent on loan to the U.S. National Herbarium where I have seen it. As pointed out by Dr. Holttum, the type sheet bears two specimens, representing two distinct species. The one selected by him to typify *Bambos arundinacea* Retzius (the one occupying the right half of the sheet) is the familiar "common thorny bamboo of India." This preserves the use of a well-known specific epithet in its traditional sense.

Although *Bambos* Retzius and *Bambusa* Schreber were published in the same year, circumstantial evidence points to the prior publication of *Bambos* Retzius. However, the preponderance of usage has been in favor of the form "*Bambusa* Schreber."

Bambus Gmelin, Linn. Syst. Nat. (ed. 13) 2(1): 579. 1791. — Genus primo monotypicum; species typica generis: *Bambus arundo* (L.) Gmelin, l.c. (*Arundo Bambos* Linnaeus, Syst. Nat. (ed. 12) 1: 100. 1767).

The abbreviated generic description follows Schreber's description of *Bambusa* (1789) as to detail. The spelling of the name of Gmelin's genus is here construed to be an orthographic variant of *Bambos* Retzius or *Bambusa* Schreber. Having been based on a different species, however, it is a later homonym of *Bambusa* Retzius corr. Schreber. (ICBN Art. 75. 1956.) The name on which Gmelin based his type species has been a source of confusion ever since it was first published by Linnaeus (1753) (three distinct entities have been involved) (McClure, Blumea Suppl. III: 90-112. 1946) and is therefore to be rejected as a "long-persistent source of error" (ICBN Art. 65. 1956). This conclusion is in accord with the opinion expressed by Holttum (Taxon 5: 28. 1956) that "the name *Arundo Bambos* L. should be regarded as a *nomen confusum*."

Bambus Blanco, Fl. Filipinas 268. 1837. — Species typica generis, nunc electa: *Bambus monogyna* Blanco l.c.

The abbreviated generic description follows Schreber's description of *Bambusa* (1789) as to detail. The spelling of the name of Blanco's genus is here construed to be an orthographic variant of *Bambos* Retzius or *Bambusa* Schreber. Having been based on a different species, however, it is a later homonym of *Bambusa* Retzius corr. Schreber (ICBN Art. 75. 1956). *Bambus monogyna* Blanco was identified by Merrill (Am. Journ. Bot. 3: 61. 1916) as *Bambusa vulgaris* Schrad. ex Wendl. Although there are some slight incongruities in Blanco's description, I believe,

on circumstantial evidence, that this identification is correct.

Bambusa Retzius corr. Schreber, Linn. Gen. Pl. 1: 236. 1789; 2: 828. 1791.

Schreber's spelling of the genus name is here construed to represent an orthographic correction of the form *Bambos* used by Retzius (ICBN Art. 73. 1956). Although *Bambos* Retzius and *Bambusa* Schreber were published in the same year, circumstantial evidence points to the prior publication of *Bambos* Retzius. Kunth says (Journ. Phys. Chim. Nat. 95: 148. 1822): "Retzius (Obs. Bot. V. p. 24) fut le premier qui reconnut que l'*Arundo bambos* de Linné devait former un genre particulier. Il le désigna sous le nom de *Bambos,* que Schreber changea en celui de *Bambusa.*" Schreber (op. cit. 2: 828. 1791) cited *Bambos* Retz. as synonymous with *Bambusa* Schreber.

In spite of occasional efforts to retain the name *Bambos* (e.g. Roxburgh, Pl. Coromand. 1: 56. 1795; Poiret *in* Lamarck, Enc. 8: 700. 1808; Siebold, Syn. Pl. 5. 1827; Hitchcock, Contr. U.S. Nat. Herb. 17: 387. 1913) the use of the name *Bambusa* Schreber for this genus has been well-nigh universal, beginning with Willdenow in 1799 (Linn. Sp. Pl. (ed. 4) 2: 245). It is deemed highly desirable to conserve a usage that is so well established and widely disseminated in the literature of both botany and horticulture. Its perpetuation should be assured by official action.

Beesha Kunth, Journ. Phys. Chim. Hist. Nat. 95: 151. 1822; Syn. Pl. 1: 253. 1822. — Genus primo monotypicum; species typica generis: *Beesha baccifera* (Roxb.) Kunth, l.c. (*Bambusa baccifera* Roxburgh, Pl. Coromand. 3: 37. *t. 243.* 1819).

Kunth's genus, which he believed to be the same as the pre-Linnaean *Beesha* Rheede (Hort. Mal. p. 119. *t. 60.* 1685) is, by description and by the citation of *Bambusa baccifera* Roxburgh as the type species, actually based on the same species as *Melocanna* Trinius (*in* Sprengel, Neue Entd. 2: 43. 1821). *Beesha* Kunth is therefore a nomenclatural (obligate) synonym of *Melocanna* Trinius. It is illegitimate because it was superfluous when published (ICBN Art. 64. 1956).

Beesha Kunth ≡ *Melocanna* Trinius.

Beesha Munro, Trans. Linn. Soc. 26: 144. 1868. — Species typica generis, nunc electa: *B. rheedei* Kunth sensu Munro, l.c.

Munro included three species in this genus. From the internal evidence it seems quite clear that he had *B. rheedei* principally in mind. C. E. C. Fischer (*in* Gamble, Fl. Madras 3(10): 1863. 1934) has renamed *Beesha rheedei* Kunth [sensu Munro, l.c.], as *Ochlandra scriptoria* (Dennstedt) C. E. C. Fischer (*Bambusa scriptoria* Dennstedt, Schlues. Hort. Ind. Mal. 31. 1818), Dennstedt's publication of it having validated the pre-Linnaean epithet. Having been superfluous when published, both the genus and the type species are illegitimate (ICBN Art. 64. 1956); the genus by the citation of *Ochlandra* Thwaites as a synonym and the type species by the citation of *Bambusa scriptoria* Dennstedt in its synonymy. *Beesha* Munro is, therefore, a nomenclatural (obligate) synonym of *Ochlandra* Thwaites (1864).

Beesha Munro ≡ *Ochlandra* Thwaites.

Bonia Balansa, Journ. de Bot. 4: 29. 1890. — Genus primo [et adhuc] monotypicum; species typica generis: *B. tonkinensis* Balansa, l.c.

Brachystachyum Y. L. Keng, Sunyatsenia 4: 151. 1940. — Genus primo [et adhuc] monotypicum; species typica generis: *B. densiflorum* (Rendle) Keng, l.c. 153 (*Arundinaria densiflora* Rendle, Journ. Linn. Soc. Bot. 36: 434. 1904).

Brasilocalamus Nakai, Journ. Jap. Bot. 9: 10. 1933. — Genus primo [et adhuc] monotypicum; species typica generis: *B. pubescens* (Doell) Nakai, l.c. (*Bambusa pubescens* Doell *in* Martius, Fl. Bras. 2(3): 189. *t. 51.* 1880).

Cephalostachyum Munro, Trans. Linn. Soc. 26: 138. 1868. — Species typica generis, nunc electa: *C. capitatum* Munro, l.c. 139.

Five species were included by Munro in his new genus. As he pointed out in the explanatory paragraph (l.c. 138), in drawing up his own description Munro made extensive use of Griffith's notes and illustration (see *Schizostachyum* sensu Griffith [as *Schizostachium*], Not. 3: 64; Ic. Pl. asiat. 3. *t. 151.* 1851). Moreover, Munro made Griffith's herbarium specimens on which the latter's published notes were based, the basis of the description of *C. capitatum.*

Chimonobambusa Makino, Bot. Mag. [Tokyo] 28: 153. 1914; emend. Nakai, Journ. Arnold Arb. 6: 151. 1925. — Species typica generis, nunc electa: *C. marmorea* (Mitford) Makino, l.c. 154 (*Bambusa marmorea* Mitford, Bamboo Garden 93. 1896).

Two species, *C. marmorea* and *C. quadrangularis*, were included by Makino in his original definition of the genus. Both of these were familiar garden ornamentals in Japan. Although *C. quadrangularis* is more widely known and occupies the first position in Makino's treatise, it seems clear that he had *C. marmorea* principally in mind when he prepared his description of the genus. He had flowering specimens of it, but not of *C. quadrangularis*. Moreover, in the generic description, the "marbled" color pattern of the culm sheaths is a feature of *C. marmorea*, and is not characteristic of *C. quadrangularis*. Nakai's transfer of *C. quadrangularis* to *Tetragonocalamus* supports this view.

Chloothamnus Buse *in* Miquel, Pl. Jungh. 386. 1854. — Genus primo monotypicum; species typica generis: *C. chilianthus* Buse, l.c. 387.

Holttum reduces *Chloothamnus* to synonymy under *Nastus* and identifies *Chloothamnus chilianthus* Buse as *N. elegantissimus* (Hasskarl) Holttum (Kew Bull. 1955: 593. 1955), (*Bambusa elegantissima* Hasskarl, Pl. Jav. rar. 42. 1848).

Chusquea Kunth, Journ. Phys. Chim. Hist. Nat. 95: 151. 1822; Syn. Pl. 1: 254. 1822. — Genus primo monotypicum; species typica generis: *C. scandens* Kunth, l.c. (*Nastus chusque* Humboldt, Bonpland et Kunth, Nov. Gen. 1: 201. 1816).

Although the genus is based on a single species, the author adds in a final paragraph: "Altera hujus generis species est *Arundo Quila* Poiret (nec *A. quila* Molina, quae spiculas habet triflorae.)" However, the spikelets of the genus *Chusquea* are by some authors (e.g. Munro, Trans. Linn. Soc. 26: 52. 1868) described as having three florets, or sometimes four, the two so-called sterile lemmas being counted as florets.

Coliquea Steudel ex Bibra, Denkschr. Akad. Wiss. Wien Math. Naturw. 5: 115. 1853.

Lacking a generic description, this name may be construed as representing a proposed substitute for the name *Chusquea* Kunth. It appears here in the combination *Coliquea quila* Steudel, with *Arundo quila* Molina [Saggio Hist. Nat. Chili, Ital. ed. 154. 1782] cited as the basionym. *Chusquea cumingii* (without author) is given as a synonym. Parodi (Sin. gram. Chil. genero Chusquea. Rev. Univ. (Univ. Catolica de Chile) 30: 65. 1945) treats *Chusquea cumingii* Nees as a valid species but does not mention either *Coliquea quila* Steudel or *Arundo quila* Molina. The identity of Steudel's plant is not made apparent by Bibra's very general notes, which do not in any sense constitute a botanical description; no specimen or illustration is cited. Neither the genus *Coliquea* Steudel nor the combination *Coliquea quila* Steudel is validly published here (ICBN Art. 64. 1956).

Decaryochloa A. Camus, Bull. Soc. Bot. de France 93: 242. 1946. — Genus primo [et adhuc] monotypicum; species typica generis: *D. diadelpha* A. Camus, l.c. 244.

Dendragrostis Nees ex Jackson, Kew Index 1: 727. 1893.

The name *Dendragrostis* Nees was treated by Nees (Linnaea 9: 466. 1835) as a subgenus of *Chusquea* Kunth. The publication of the name in Kew Index as a genus probably was not intended as a taxonomic judgment but as a routine bibliographic citation. In any case, having been treated as a synonym of *Chusquea*, the name was not validly published as a genus in Kew Index (ICBN Art. 37. 1956).

Dendrocalamus Nees, Linnaea 9: 476. 1835. — Genus primo monotypicum; species typica generis: *D. strictus* (Roxburgh) Nees, l.c. (*Bambos stricta* Roxburgh, Pl. Coromand. 1: 58. *t. 80.* 1795).

Dendrochloa Parkinson, Indian Forester 59: 707. 1933. — Genus primo [et adhuc] monotypicum; species typica generis: *D. distans* Parkinson, l.c. *t. 34.*

Dinochloa Buse, *in* Miquel, Pl. Jungh. 387. 1854. — Genus primo monotypicum; species typica generis: *D. tjankorreh* Buse, l.c. 388.

As a synonym of *D. tjankorreh*, Buse cited an earlier valid name: *Bambusa scandens* Blume ex Nees (Bot. Zeit. 7: 291. 1824). I have examined both types in the Rijksherbarium at Leiden; they are specifically identical. Therefore, the correct name of the type species of the genus is *Dinochloa scandens* (Blume) Kuntze, Rev. Gen. Pl. 2: 773. 1891.

Elytrostachys McClure, Journ. Wash. Acad. Sci. 32: 173. 1942. — Species typica generis, a McClure tunc electa: *E. typica* McClure, l.c. 174.

Fargesia Franchet, Bull. Linn. Soc. Paris. 2: 1067. 1893. — Genus primo monotypicum;

species typica generis: *F. spathacea* Franchet, l.c.

Gigantochloa Kurz ex Munro, Trans. Linn. Soc. 26: 123. 1868. — Species typica generis a Holttum (1956) electa: *G. atter* (Hasskarl) Kurz ex Munro, l.c. 125 (*Bambusa thouarsii β atter* Hasskarl, Pl. Jav. rar. 41. 1848).

Three species were included by Munro in the genus. As pointed out by Holttum (Journ. Arnold Arb. 27: 341. 1946) *G. heterostachya* has to be excluded as not congeneric. This leaves *G. verticillata* and *G. atter*. Holttum (Taxon 5: 28-30. 1956) has recently suggested the rejection of *G. verticillata* as the type species on the ground that it is not possible with certainty to associate the type (a leafless flowering specimen) of *Bambusa verticillata* with any particular one of the several vegetatively distinct forms included by Munro in his concept of the species.

Glaziophyton Franchet, Journ. de Bot. 3: 277. 1889. — Genus primo [et adhuc] monotypicum; species typica generis: *G. mirabile* Franchet, l.c.

Hackel (*in* Engler & Prantl, Nat. Pflanzenfam. II. 2. Nachtr. 46. 1897) reduced *Glaziophyton* to a section of the genus *Arundinaria*, coordinate with his section *Thamnocalamus* of that genus.

Greslania Balansa, Bull. Soc. Bot. France 19: 319. 1873. — Species typica generis, nunc electa: *G. montana* Balansa, l.c. 320.

Balansa included three species in this genus. The fullest description is given for the first, *G. montana*.

Guadua Kunth, Journ. Phys. Chim. Hist. Nat. 95: 150. 1822; Syn. Pl. 1: 252. 1822. — Species typica generis, nunc electa: *G. angustifolia* Kunth, Syn. Pl. 1: 253. 1822 (*Bambusa guadua* Humboldt & Bonpland, Pl. Aeq. 1: 63. *t. 20.* 1808.)

Kunth included two species in his genus. The internal evidence as to which species he probably had principally in mind consists of the extensive documentation by Humboldt & Bonpland (l.c. 63 et seq.) of *Bambusa guadua* (basis of *G. angustifolia*) in relation to the local economy and to the flora of the type locality.

Guaduella Franchet, Bull. Soc. Linn. Paris 1: 676. 1887. — Genus primo monotypicum; species typica generis: *G. marantifolia* Franchet, l.c.

Hickelia A. Camus, C. R. Acad. Sci. Paris 179: 479. 1924; Bull. Soc. Bot. France 71: 899. 1924. — Genus primo monotypicum; species typica generis: *H. madagascariensis* A. Camus, C. R. Acad. Sci. Paris 179: 480. 1924.

Hitchcockella A. Camus, C. R. Acad. Sci. Paris 181: 253. 1925. — Genus primo [et adhuc] monotypicum; species typica generis: *H. baronii* A. Camus, l.c.

Houzeaubambus Mattei, Boll. Soc. Ort. Mut. Soccor. Palermo 8(6): 84. 1910. — Genus primo monotypicum; species typica generis: *H. borzoi* (Mattei) Mattei, l.c. (*Oxytenanthera borzii* Mattei, Boll. R. Ort. Bot. Col. Palermo 8: 36. 1909.

Of *Houzeaubambus*, which he placed in the synonymy of *Oxytenanthera* (Les Bambusées 144. 1913) E. G. Camus says "Nous ne croyons pouvoir adopter ce genre, mais nous pensons qu'il pourrait être considéré comme un bon sous-genre."

Indocalamus Nakai, Journ. Arnold Arb. 6: 148. 1925. — Species typica, nunc electa: *I. sinicus* (Hance) Nakai, l.c. (*Arundinaria sinica* Hance, Ann. Sci. Nat. Bot. ser. 4. 18: 235. 1862).

Nakai included in this genus seven rather diverse bamboos already known to science, but did not designate a type species. His comparison of this genus with *Sasa* focuses attention primarily on *I. sinicus*.

Indosasa McClure, Sci. Bull. Lingnan Univ. 9: 28. 1940. — Species typica, a McClure tunc electa: *I. crassiflora* McClure, l.c. 29.

Irulia Beddome, Forester's Man. Bot. 235. 1873.

It is clear that Beddome did not intend to publish this as a new genus. It is only at the end of his description of "*Beesha*? *travancorica* Bedd." that he refers to the name thus: "*Irulia travancorica, Bedd. in Distrib.*" Having been merely cited in synonymy, the name was not validly published (ICBN Art. 37. 1956).

Ischurochloa Buse, *in* Miquel, Pl. Jungh. 389. 1854. — Species typica generis, nunc electa: *I. spinosa* (Roxburgh) Buse, l.c. 390 (*Bambusa spinosa* Roxburgh, Fl. Ind. 2: 198. 1832).

Buse included two species (*I. spinosa* and *I. floribunda*) in his genus. It seems clear

that he had *I. spinosa* principally in mind, since he used it as his standard of comparison, and pointed out certain discrepancies and abnormalities that occur in *I. floribunda*. Nakai's action (Journ. Jap. Bot. 9: 10. 1933) in transferring *I. floribunda* to *Leleba* appears to support this conclusion. Munro (Trans. Linn. Soc. 26: 157. 1868) in his "Addenda et corrigenda (for p. 87), makes *Ischurochloa* Buse a taxonomic synonym of *Bambusa* Schreber.

Klemachloa Parker, Indian Forester 58: 7. 1932. — GENUS PRIMO [et adhuc] MONOTYPICUM; species typica generis: *K. detinens* Parker, l.c.

Leleba Nakai, Journ. Jap. Bot. 9: 9. 1933 (descr. jap.); Flora Sylvat. Koreana 20: 13 (diagn. latine in clavi) 1933. — SPECIES TYPICA GENERIS, nunc electa: *L. floribunda* (Buse) Nakai, Journ. Jap. Bot. 9: 10. 1933 (*Ischurochloa floribunda* Buse, *in* Miquel, Pl. Jungh. p. 390. 1854).

This genus was set up by Nakai to accomodate the unarmed species of *Bambusa*. Twelve species and several varieties already known to science were included in it. *Leleba floribunda* (Buse) Nakai, the first species mentioned, was the one best known to Nakai. I consider the genus *Leleba* to be taxonomically synonymous with *Bambusa* Retzius corr. Schreber. (McClure, Blumea Suppl. III: 106. 1946).

Lingnania McClure, Sci. Bull. Lingnan Univ. 9: 34. 1940. — SPECIES TYPICA GENERIS, a McClure tunc electa: *L. chungii* (McClure) McClure, l.c. 35 (*Bambusa chungii* McClure, Lingnan Sci. Journ. 15: 639. *t.* 28. 1936).

Ludolfia Willdenow, Mag. neue Entdeck. Ges. Naturf. Freunde Berlin 2: 320. 1808. — SPECIES TYPICA GENERIS, nunc electa: *L. macrosperma* (Michaux) Willdenow, l.c. (*Arundinaria macrosperma* Michaux, Fl. Bor.-Am. 1: 74. 1803).

Two species (*L. glaucescens* and *L. macrosperma*) were included in this genus. Willdenow obviously had the first principally in mind. However, another circumstance must be given precedence in determining the type of Willdenow's genus.

Willdenow plainly was proposing a new name for the whole of the genus *Arundinaria* Michaux. He says: "Der Name *Arundinaria* kann aber, nach der einmal feststehenden Regel, da er unrichtig gebildet ist, nicht bleiben... Ich nenne deshalb diese Gattung *Ludolfia*..." This circumstance automatically makes the type species of *Ludolfia* the same as that of *Arundinaria* (ICBN Art. 7, Note 4. 1956). Having been superfluous when published the genus *Ludolfia* Willdenow is illegitimate (ICBN Art. 64. 1956).

Ludolfia Willdenow ≡ *Arundinaria* Michaux.

Macronax Rafinesque, Med. Repos. 11: 353. 1808 (sine descr.). — GENUS PRIMO MONOTYPICUM; species typica generis: [*Arundinaria macrosperma* Michaux, Fl. Bor.-Am. 1: 73. 1803.] (ICBN Art. 7, Note 4. 1956.)

Rafinesque was proposing a new name for *Arundinaria* Michx. He cited "Flora Boreali-Americana of Michaux" and "the arundinaria of do [Michaux]" (i.e. *Arundinaria macrosperma* Michaux) but did not transfer the specific epithet. The genus must be rejected as illegitimate because it was superfluous when proposed (ICBN Art. 64. 1956).

Macronax Rafinesque ≡ *Arundinaria* Michaux.

Melocalamus Bentham, Journ. Linn. Soc. [London] 19: 134. 1881 (sine descr.); *in* Benth. & Hook. Gen. Pl. 3: 1212. 1883. — GENUS PRIMO [et adhuc] MONOTYPICUM; species typica generis: *M. compactiflorus* Bentham, l.c. (1883) (*Pseudostachyum compactiflorum* Kurz, Journ. Asiat. Soc. Bengal 42: 252. 1873).

McClure (Kew Bull. 1936: 251-254. 1936) proposed the union of *Melocalamus* Bentham with *Dinochloa* Buse. Holttum (Phytomorphology 6: 78. 1956) expressed the opinion that *Melocalamus* is generically distinct.

Melocanna Trinius, *in* Spreng. Neue Entdeck. 2: 43. 1821. — GENUS PRIMO MONOTYPICUM; species typica generis: *M. bambusoides* Trinius, l.c. (*Bambusa baccifera* Roxburgh, Pl. Coromand. 3: 37. *t.* 243. 1819).

Trinius presented no specific description and made no reference to a specimen; he simply cited "(Bambusa baccifera Roxb. Corom. III. p. 37. t. 243.)" immediately after the name *bambusoides*. Thus, from the evidence in the text, it appears that Trinius based his genus wholly on *Bambusa baccifera* Roxburgh. It is possible, of course, that he based his description of the genus on specimens other than Roxburgh's type, in which case *Bambusa baccifera* Roxburgh would be a taxonomic synonym of *Melo-*

canna bambusoides Trinius. In any case, *Bambusa baccifera* Roxburgh is the earliest valid name for the entity involved, and the correct name of the type species of *Melocanna* is *M. baccifera* (Roxburgh) Kurz, Prelim. Rpt. For. Fl. Pegu, Append. B. 1875 (ICBN Art. 55. 1956).

Merostachys Sprengel, Syst. Veg. 1: 132. 1825. — Genus primo monotypicum; species typica generis: *M. speciosa* Sprengel, l.c. 249.

Microbambus K. Schumann, Bot. Jahrb. 24: 336. 1898. — Genus primo monotypicum; species typica generis: *M. macrostachys* K. Schumann, l.c.

Pilger (Bot. Jahrb. 43: 387. 1909) expressed the opinion that *Microbambus* K. Schumann should be united with *Guaduella* Franchet. E. G. Camus (Les Bambusées, 114. 1913) cited "*Microbambus* K. Schum." as a synonym of "*Guadella*" *marantifolia* Franch.

Microbambusa Franchet, Bull. Linn. Soc. Paris ser. 2. 3: 18. 1898. Error for *Microbambus* K. Schumann.

Microcalamus Franchet, Journ. de Bot. 3: 282. 1889. — Genus primo monotypicum; species typica generis: *M. barbinodis* Franchet, l.c.

Franchet, l.c., referred this genus to the subtribe *Arundinariae* of the tribe *Bambuseae*. Hackel (*in* Engler & Prantl, Nat. Pflanzenfam. II (2) Nachtr. 46. 1897) placed *Microcalamus* between *Arundinaria* and *Phyllostachys*. E. G. Camus included the genus in his monograph (Les Bambusées 66. 1913). However, in the second edition of the Pflanzenfamilien (14e: 33. 1954) Pilger treats *Microcalamus* Franchet as a member of the subtribe *Panicinae* of the subfamily *Panicoideae*.

Microcalamus Gamble, Journ. Asiat. Soc. Bengal 59: 207. 1890 non Franchet 1889. — Genus primo monotypicum; species typica generis: *M. prainii* Gamble, l.c.

Gamble later (Ann. Roy. Bot. Gard. Calcutta 7: 21. 1896) transferred this species to the genus *Arundinaria*. The name *Microcalamus* Gamble was rejected as illegitimate because it is a later homonym of *Microcalamus* Franchet 1889 (ICBN Art. 64. 1956).

Miegia Persoon, Syn. Pl. 1: 101. 1805, non Necker 1790, nec Schreber 1791. — Genus monotypicum; species typica generis: *M. macrosperma* (Michaux) Persoon, l.c. 102 (*Arundinaria macrosperma* Michaux Fl. Bor.-Am. 1: 73. 1803).

Persoon proposed the name *Miegia* as a substitute for *Arundinaria* Michaux, not realizing that *Miegia* was a later homonym twice over. Besides this, Persoon's *Miegia* is illegitimate because it was superfluous when published (ICBN Art. 64. 1956).

Miegia Persoon ≡ *Arundinaria* Michaux.

Mustelia Cavanilles ex Steudel, Nom. Bot. (ed. 2) 2: 168. 1841 (sine descr.), non Sprengel 1801. — Genus monotypicum; species typica generis: "*M. arundinacea* Cav. ined. ex Trin. (mpt)." Steudel, l.c. 1: 361. 1840 (nom. nud.) (as syn. of *Chusquea scandens* Kunth); 2: 168. 1841.

Mustelia Cavanilles is a later homonym of Sprengel's genus. Neither Cavanilles' genus nor the binomial was validly published (ICBN Art. 38, 39. 1956).

Myriocladus Swallen, Fieldiana, Botany 28: 34. *fig. 4.* 1951. — Species typica generis (teste Swallen): *M. virgatus* Swallen, l.c.

Nastus Jussieu, Gen. Pl. 34. 1789 (genus tantum); emend. Holttum, Kew Bull. 1956: 593. 1956. — Genus primo monotypicum; species typica generis, a Jussieu electa: *N. borbonicus* Gmelin, Linn. Syst. Nat. (ed. 13) 2: 580. 1791.

Following the formal description, Jussieu says: "Caracter ex Borbonico Commersonii specimine, dicto Calumet des Hauts." From this we may conclude that the genus was based on a single species. No binomial was made by Jussieu for the type species of his genus, but he cited the specimen on which his genus was based. Gmelin was the first to assign a specific name to Commerson's specimen from "Borbon" (the Island of Reunion) which was the basis of Jussieu's description of the genus.

In the expression "Genus primo monotypicum; species typica generis, a Jussieu electa:" as used here, the word "monotypicum" means "based on a single species" and the words "species typica generis" refer both to the then unnamed entity on which Jussieu clearly based his genus and to the binomial for which Gmelin supplied the specific epithet. In this context, it is not deemed incorrect to say that Jussieu selected the type species.

Neobambus K. H. Keng, Tech. Bull. China Nat. For. Res. Bur. 8: 15. 1948. — Genus monotypicum; species typica generis: *Neobambus dolichanthus* [as *dolicanthus*] (Y. L. Keng) K. H. Keng, l.c. (*Arundinaria dolichantha* [as *dolicantha*] Y. L. Keng, Sinensia 7: 418. 1936) (ICBN Art. 73. 1956).

The genus was not validly published (ICBN Art. 38, 39. 1956).

Neohouzeaua A. Camus, Bull. Mus. Hist. Nat. Paris 28: 100. 1922. — Species typica generis, nunc electa: *M. mekongensis* A. Camus, l.c., 101.

Two species were included in the genus by Mlle. Camus. Both were fully described and illustrated. *N. mekongensis,* which she treats first, obviously was her standard of comparison. Of *N. dullooa* she says (l.c. 102): "Tous ces caractères séparent absolument cette espèce du genre *Teinostachyum* et la rapprochent étroitement du *Neohouzeaua mekongensis.*"

Neosasamorpha Tatewaki, Trans. Hokkaido For. Soc. 38(2): 8. 1940. — Species typica generis, nunc electa: *N. asagishiana* (Makino & Uchida) Tatewaki, l.c. (*Sasa asagishiana* Makino & Uchida, Journ. Jap. Bot. 6: 26. 1929).

Neurolepis Meisner, Pl. vasc. gen. 1: 426; 2: 325. 1843. — Genus primo monotypicum; species typica generis: *N. elata* (Kunth) Pilger, *in* Engler & Prantl, Nat. Pflanzenfam. II(2) Nachtrag 3: 31. 1908 (*Platonia elata* Kunth, Rev. Gram. 1: 139. 1829).

Meisner's reason for changing the name of this genus was the fact that *Platonia* Kunth (1829) was discovered to be a later homonym of *Platonia* Martius (1829). Meisner does not mention the earlier (1808) *Platonia* Rafinesque. *Neurolepis* was based by Meisner wholly on *Platonia* Kunth, at that time a monotypic genus. This automatically makes the type species of *Platonia* Kunth the type species of *Neurolepis* Meisner (ICBN Art. 7, Note 4. 1956), but the transfer of the specific epithet was not made until 1908. Meanwhile *Planotia* Munro (Trans. Linn. Soc. 26: 70. 1868) had been set up as a new name for *Platonia* Kunth, but this name falls as a nomenclatural (obligate) synonym of *Neurolepis* Meisner.

Nipponobambusa Muroi, Hyogoken tyutokyoiku hakubutsugakuzasshi (Hyogo Prefecture Journ. Secondary Ed. Nat. Hist. no. 6, 1940) (In Japanese); Take to Sasa (Japanese Bamboos) 334-336. 1956. (In Japanese). — Species typica, nunc electa: *N. hisauchii* (Makino) Muroi, op. cit. [*Arundinaria hisauchii* Makino *in* Tsuboi, Illus. Jap. Bot. 40. *t.* 38, *fig.* 2. 1916. (In Japanese)]

Lacking a diagnosis in Latin, the genus was not validly published (ICBN Art. 34. 1956).

Nipponocalamus Nakai, Journ. Jap. Bot. 18: 350. 1942. — Species typica generis, a Nakai tunc electa: *N. simonii* (Carrière) Nakai, l.c. (*Bambusa simonii* Carrière, Rev. Hort. 37: 380. 1886).

Ochlandra Thwaites, Enum. Pl. Zeyl. p. 376. 1864. — Genus primo monotypicum; species typica generis: *O. stridula* Thwaites, l.c.

The genus was based on a single species, but no separate description of the species was given. ICBN Art. 41. 1956, validates the publication of a monotypic new genus based on a new species "by the provision of a combined generic and specific description . . ." and adds a note ". . . a description of a monotypic new genus based on a new species is treated also as a specific description if the generic name and specific epithet are published together and the species is not described."

Oreobambus K. Schumann, Notizbl. Berlin 1: 178. 1895. — Genus primo [et adhuc] monotypicum; species typica generis: *O. buchwaldii* K. Schumann, l.c.

Oreocalamus Y. L. Keng, Sunyatsenia 4: 146. 1940. — Species typica generis, a Keng tunc electa: *O. szchuanensis* (Rendle) Keng, l.c. 147 (*Arundinaria szchuanensis* Rendle, *in* Sargent, Pl. Wilson. 2: 64. 1914).

K. H. Keng (Tech. Bull. Natl. For. Res. Bur. [Nanking, China] 8: 15. 1948) transferred both the type species and the second species placed here by Y. L. Keng, to *Chimonobambusa.*

Oreiostachys Gamble ex Koorders, Proc. R. Acad. Sci. Amsterdam 10: 685. 1908. — Genus primo monotypicum; species typica generis: *O. pullei* Gamble, l.c.

Holttum (Kew Bull. 1955: 593. 1955) makes *Oreiostachys* Gamble a taxonomic synonym of *Nastus* Jussieu, and the type species of *Oreiostachys* a synonym of *Nastus elegantissimus* (Hasskarl) Holttum (*Bambusa elegantissima* Hasskarl, Pl. Jav. rar. 42. 1848).

Oxytenanthera Munro, Trans. Linn. Soc. 26: 126. 1868. — Species typica generis, nunc electa: *O. abyssinica* (Richard) Munro, l.c. 127 (*Bambusa abyssinica* A. Richard, Tent. Fl. Abyss. 2: 439. 1851).

Five species were included in this genus. Munro did not designate a type species, but it may be inferred from circumstantial evidence that he probably had *O. abyssinica*

principally in mind. Richard (l.c. 440) had already raised the question of the merit of making this plant the type of a distinct genus. Munro (l.c. 128) called attention to its distinctive appearance.

Perrierbambus A. Camus, Bull. Soc. Bot. France 71: 699. 1924. — Genus primo monotypicum; species typica generis: *P. madagascariensis* A. Camus, l.c.

Phyllostachys Siebold & Zuccarini, Abh. K. Bayer. Akad. Wiss. 3: 745. 1843. (*nom. cons.*) non Torrey 1836 (nom. rej.) — Genus primo monotypicum; species typica generis: *P. bambusoides* Siebold & Zuccarini, l.c. 746. *t. 5, f. 3.* 1843.

Some authors have considered that the type species, *Phyllostachys bambusoides*, finds an earlier name in *P. reticulata* (Ruprecht) Koch, but the identity of the basionym *Bambusa reticulata* Ruprecht has not been clearly established (McClure, Journ. Arnold Arb. 37: 187-189. 1956). See also *Sinoarundinaria* Ohwi.

Planotia Munro, Trans. Linn. Soc. 26: 70. 1868. — Species typica generis (ICBN Art. 7, Note 4. 1956): *P. elata* (Kunth) Munro, l.c. (*Platonia elata* Kunth, Rev. Gram. 1: 327. *t. 76.* 1830). Overlooking the name *Neurolepis* proposed by Meisner in 1843 to take the place of *Platonia* Kunth — a later homonym of *Platonia* Rafinesque (1808) and *Platonia* Martius (1829) — Munro proposed the name *Planotia* for Kunth's genus. However, *Neurolepis* Meisner, having priority, must be adopted as the name of this genus (ICBN Art. 11. 1956). *Planotia* Munro is illegitimate because it was superfluous when published (ICBN Art. 64. 1956).

Planotia Munro and *Platonia* Kunth ≡ *Neurolepis* Meisner.

Platonia Kunth, Rev. Gram. 1: 139. 1829, non Rafinesque 1808, nec Martius 1829. — Genus primo monotypicum; species typica generis: *P. elata* Kunth, l.c. 327. *t. 76.* 1830.

Neurolepis Meisner (1843) based on *Platonia elata* Kunth, l.c., has priority as the name for this genus (ICBN Art. 11. 1956).

Platonia Kunth and *Planotia* Munro ≡ *Neurolepis* Meisner.

Pleioblastus Nakai, Journ. Arnold Arb. 6: 145. 1925. — Species typica generis, nunc electa: *P. communis* (Makino) Nakai, l.c. (*Arundinaria communis* Makino, Bot. Mag. [Tokyo] 28: 293. 1914).

Pseudocoix A. Camus, C. R. Acad. Sci. Paris 179: 478. 1924; Bull. Soc. Bot. France 71: 903-906, f. 1-18. 1924. — Genus primo [et adhuc] monotypicum; species typica generis: *P. perrieri* A. Camus, l.c.

Pseudosasa Makino ex Nakai, Journ. Arnold Arb. 6: 150. 1925; emend. Nakai, Fl. Sylvat. Koreana 20: 16-22. 1933. — Species typica generis, nunc electa: *P. japonica* (Siebold & Zuccarini) Makino ex Nakai, l.c. (*Arundinaria japonica* Siebold & Zuccarini ex Steudel, Syn. Pl. Glum. 1: 334. 1854).

Four species were included in the genus as first defined by Nakai. In 1933, however, he excluded two of these, leaving *P. japonica* and *P. owatarii*, two of the three species listed by Makino (Journ. Jap. Bot. 2: 15. 1920) when he first attempted to set up the genus (without a generic description). Siebold and Zuccarini based their description of *Arundinaria japonica* on a flowering specimen of a bamboo widespread in cultivation as a garden ornamental in Japan. It has long been well and widely known in the botanical and horticultural literature and lore of Japan as the Arrow Bamboo — Yadake. On the other hand, *P. owatarii* was a relatively obscure bamboo, first made known to science by Makino in 1907 as *Arundinaria owatarii* Makino, on the basis of a fragmentary, sterile specimen collected from the wild on the island of Yakushima. Internal evidence makes it quite clear that the generic description of *Pseudosasa* Makino ex Nakai (1925) was based entirely on *P. japonica.*

Pseudostachyum Munro, Trans. Linn. Soc. 26: 141. 1868. — Genus primo monotypicum; species typica generis: *P. polymorphum* Munro, l.c. 142. *t. 4.*

Puelia Franchet, Bull. Soc. Linn. Paris 1: 674. 1887. — Genus primo monotypicum; species typica generis: *P. ciliata* Franchet, l.c.

Racemobambos Holttum, Phytomorphology 1: 88. 1956 (nom. semi-nud. in clavi); Gardens' Bull. Singapore 15: 268. 1956. — Species typica generis, a Holttum electa: *R. gibbsiae* (Stapf) Holttum, l.c. 269, 272 (*Bambusa gibbsiae* Stapf, Journ. Linn. Soc. [London] Bot. 42: 189. 1914.)

Rettbergia Raddi, Agrost. Bras. 17. *t. 1, f. 1.* 1823. — Genus primo monotypicum; species typica generis: *R. bambusoides* [as *bambusaeoides*] Raddi, l.c. 18, t. 1, f. 1. (ICBN Art. 73 and 73, note 2. 1956).

Hackel (in Wettstein, Denkschr. Akad. Wiss. Wien. Math. Naturw. 79: 81. 1908) transferred this to *Chusquea* as *C. bambusoides* (Raddi) Hackel.

Sasa Makino & Shibata, Bot. Mag. [Tokyo] 15: 18. 1901 (diagn. angl.) (ICBN Art. 34. 1956). — Species typica generis, nunc electa: *S. albomarginata* (Miquel) Makino & Shibata, l.c. 25. *t. 1, f. 1-6* (*Phyllostachys bambusoides β albo-marginata* Miquel, Prol. Fl. Jap. 172. 1866).

Rehder (Journ. Arnold Arb. 1: 58. 1919) identifies this species as *S. veitchii* (Carrière) Rehder (*Bambusa veitchii* Carrière, Rev. Hort. 60: 90. 1888) (ICBN Art. 60. 1956). Although the epithet "albo-marginata" was published earlier as a variety, "veitchii" has priority as a specific epithet. Eight species were included in the genus. The type species was not designated but diagnostic features of two of these were illustrated: *S. borealis* and *S. albo-marginata*, the latter more fully. *S. borealis* has since been transferred to the genus *Sasamorpha* by Nakai (Journ. Fac. Agr. Hokkaido Univ. 26: 181. 1931).

Sasaella Makino, Journ. Jap. Bot. 6: 15. 1929. — Species typica generis, nunc electa: *S. ramosa* (Makino) Makino, l.c. (*Arundinaria ramosa* Makino, Bot. Mag. [Tokyo] 14: 22. 1900).

Nine species were included in this genus. Of these *S. ramosa* is the oldest and probably was best known to Makino.

Nakai (Journ. Jap. Bot. 10: 567. 1934) says of this genus: "I cannot find any striking characteristics to distinguish *Sasaella* from *Arundinaria*, either in the nature of branching of the culms or in the structure of the flowers. The more the species are found the more the distinction becomes hard. In fact, the flowers of *Sasaella Hisauchii* and *Sasaella Sasakiana* are just the form of *Arundinaria macrosperma*, and the flowers of *Sasaella nikkoensis* are in every respect the form of *Arundinaria tecta*."

Sasamorpha Nakai, *in* Miyabe & Kudo, Journ. Fac. Agr. Hokkaido Univ. 26: 180. 1931. — Species typica generis, a Nakai (1932) electa: *S. purpurascens* (Hackel) Nakai, Bot. Mag. [Tokyo] 46: 41. 1932 (*Arundinaria purpurascens* Hackel, Bull. Herb. Boissier 7: 716. 1899).

The genus was based on two species: *S. borealis* and *S. purpurascens*. No type species was indicated. It is clear, however, that Nakai (l.c. 1931, 181) intended in the beginning to make *S. borealis* (Hackel) Nakai (*Bambusa borealis* Hackel, l.c. 720) the type species of *Sasamorpha*, since he gave full data about it and mentioned *S. purpurascens* only incidentally. Later, however (l.c. 1932, 41) he made *S. borealis* a variety of *S. purpurascens*. By this action he fixed *S. purpurascens* as the type species of his genus.

Schizostachyum Nees ab Esenbeck, Agrost. Bras. 535. 1829. — Genus primo monotypicum; species typica generis: *S. blumei* Nees, l.c. [as *Blumii*].

Schizostachyum sensu Griffith [as *Schizostachium*], Notul. Pl. Asiat. 3: 64, Icon. Pl. Asiat. 3: t. 151. 1851 non *Schizostachyum* Nees (1829).

Griffith's spelling of the name is here construed to be an orthographic variant of *Schizostachyum* (Nees, Agrost. Bras. 2(1): 535. 1829). Griffith alludes to *Schizostachyum* Nees in terms that reveal his uncertainty as to whether his plant was congeneric with that of Nees. The specimen on which Griffith's generic and specific description were based became the type of *Cephalostachyum capitatum* Munro, type species of the genus *Cephalostachyum* Munro (Trans. Linn. Soc. 26: 138. 1868). Having been based on a different species, the name *Schizostachyum* Griffith [as *Schizostachium*] is a later homonym of *Schizostachyum* Nees (ICBN Art. 75. 1956).

Schizostachyum Griffith ≡ *Cephalostachyum* Munro.

Semiarundinaria Makino ex Nakai, Journ. Arnold Arb. 6: 150. 1925. — Species typica generis, nunc electa: *S. fastuosa* (Mitford) Makino ex Nakai, l.c. p. 151 (*Bambusa fastuosa* Mitford, Bamboo Garden p. 105. 1896).

Nakai included three species in the genus but did not designate a type species. As Makino originally conceived the genus (Journ. Jap. Bot. 2: 8. 1918, sine descr.), it contained but one of these — the one indicated above as the type species. Being indigenous (apparently endemic) in Japan and a celebrated garden ornamental there since early times, this plant was much more intimately known to both Makino and Nakai than the other two species included by Nakai in the genus as published: *S. sat* (Balansa) Nakai based on a bamboo endemic in Indochina, and *S. pantlingii*, based on one endemic in India.

Shibataea Makino ex Nakai, Journ. Jap. Bot. 9: 83. 1933. — GENUS PRIMO MONOTYPICUM; species typica generis: *S. kumasasa* (Zollinger) Makino ex Nakai, l.c. [as *kumasaca*], based on "*Bambusa kumasasa* Jap. ex Zollinger, Syst. Verz. Ind. Arch. Jap. I. p. 57 no. 26 (1854); non *Bambos kumasasa* Siebold in Verh. Bat. Genoots. XII p. 6 no. 32 (1830). *Bambusa kumasaca* Zollinger Herb. no. 29 ex Steudel, Syn. Pl. Glum. I. p. 331 (1855) cum descript. — Miquel, Fl. Nederl. Ind. III pt. 3 p. 419 (1857)."

Attention is directed to Nakai's spelling of the specific epithet as "*kumasaca*." The word "*kumasasa*" is the correct romanized form of a Japanese bamboo name. The evident intention of Zollinger (l.c. 1854) was to publish the specific epithet as "*kumasasa*" and not "*kumasaca*." It is noteworthy that Miquel (Ann. Mus. Bot. Lugd. Batav. 2: 283. 1866, and Franchet & Savatier (Enum. Pl. Jap. 2: 184. 1879) both corrected Steudel's spelling of the name "*kumasaca*" to "*kumasasa*." The name may have been spelled on the herbarium specimen (Zoll. n. 29) with a "ç"; if so, it should have been rendered in Latin as "s" (as Zollinger did) and not as plain "c" without the cedilla as Steudel did. The latter spelling gives a hard "c" before "a" thus departing unnecessarily from the original sound which is that of "s." It seems quite clear that the incorrect spelling "*kumasaca*" originated through an inadvertency; its perpetuation is, therefore, unjustifiable (ICBN Art. 73. 1956).

Sinarundinaria Nakai, Journ. Jap. Bot. 11: 1. 1935. — SPECIES TYPICA GENERIS, a Nakai electa: *S. nitida* (Mitford) Nakai, l.c. (*Arundinaria nitida* Mitford ex Stapf, Kew Bull. 1896: 20. 1896).

Sinoarundinaria Ohwi, *in* Mayebara, Florula Austrohigoensis 86. 1931. — SPECIES TYPICA GENERIS (ICBN Art. 7, Note 4. 1956): [*Phyllostachys bambusoides* Siebold & Zuccarini, Abh. Bayer. Akad. Wiss. 3: 745. *t.* 5. 1843].

Ohwi proposed this name as a substitute for *Phyllostachys* Siebold & Zuccarini because the latter name is a later homonym of *Phyllostachys* Torrey, Ann. Lyc. N.Y. 3: 404. 1836. However, the name *Phyllostachys* Siebold & Zuccarini was subsequently added to the ICBN list of Nomina Generica Conservanda (1947) and as a result of this action the name *Sinoarundinaria* Ohwi became a nomenclatural (obligate) synonym of this genus.

Sinoarundinaria Ohwi ≡ *Phyllostachys* Siebold & Zuccarini.

Sinobambusa Makino ex Nakai, Journ. Arnold Arb. 6: 152. 1925. — SPECIES TYPICA GENERIS, nunc electa: *S. tootsik* (Makino) Makino ex Nakai, l.c. (*Arundinaria tootsik* Makino, Bot. Mag. [Tokyo] 19: 53. 1905).

The genus was based by Nakai on two species: *S. elegans* and *S. tootsik*. As Makino originally conceived the genus (Journ. Jap. Bot. 2: 8. 1918 sine descr.) it contained but one of these — the one designated above as the type species. Having been "introduced from China in olden times" (according to Makino l.c. 1905, 65), *S. tootsik* was well known in Japan as a garden ornamental, whereas *S. elegans* was based on a bamboo known only by herbarium specimens collected in the wild in Bengal.

Sinocalamus McClure, Sci. Bull. Lingnan Univ. 9: 66. 1940. — SPECIES TYPICA GENERIS, a McClure tunc electa: *S. latiflorus* (Munro) McClure, l.c.

Stemmatospermum P. Beauvois, Essai Agrost. 144. 1812. — GENUS PRIMO MONOTYPICUM; species typica generis: *S. verticillatum* P. Beauvois, l.c. 145. *t.* 25, *f.* 5.

The identity of the plant illustrated by Beauvois is unmistakable. *Stemmatospermum verticillatum* Beauvois is correctly cited by Schultes (*in* Roem. & Schult. Syst. Veg. 7: 1358. 1830) as a synonym of *Nastus borbonicus* Gmelin. Having been based on the same species as the earlier Nastus, *Stemmatospermum* P. Beauvois is a taxonomic synonym of *Nastus* Jussieu (1789) (ICBN Art. 11. 1956).

Streptochaeta Schrader ex Nees, *in* Martius Fl. Bras. 2(1): 536. 1829. — GENUS PRIMO MONOTYPICUM; species typica generis: *S. spicata* Schrader, l.c. p. 537.

Pilger (Bot. Jahrb. 76: 291. 1954) placed the tribe *Streptochaetae* Hubbard in the subfamily *Bambusoideae* Ascherson & Graebner.

Teinostachyum Munro, Trans. Linn. Soc. 26: 142. 1868. — SPECIES TYPICA GENERIS, nunc electa: *T. griffithii* Munro, l.c. *t.* 3.

Two species were included in the genus; only *T. griffithii*, the first mentioned, was illustrated and may therefore be presumed to be the one Munro had principally in mind.

Tetragonocalamus Nakai, Journ. Jap. Bot. 9: 88. 1933. — SPECIES TYPICA GENERIS, a

Nakai tunc electa: *T. angulatus* (Munro) Nakai, l.c. 89 (*Bambusa angulata* Munro, Trans. Linn. Soc. 26: 94. 1868).

Two species were included in the genus: *T. angulatus* and *T. quadrangularis*. These two wholly unrelated bamboos were already placed in two quite distinct genera, as *Bambusa angulata* Munro and *Chimonobambusa quadrangularis* (Fenzi) Makino. Since Nakai designated *Bambusa angulata* Munro as the type species of his genus, and since *Chimonobambusa quadrangularis* is a wholly discordant element, *Tetragonocalamus* Nakai (1933) must be considered a taxonomic synonym of *Bambusa* Retz. corr. Schreb. (1789) (ICBN Art. 11. 1956).

Thamnocalamus Munro, Trans. Linn. Soc. 26: 33. 157. 1868. — SPECIES TYPICA GENERIS, a Bentham (1883) electa: *T. spathiflorus* (Trinius) Munro, l.c. 34 (*Arundinaria spathiflora* Trinius, Mém. Acad. St. Pétersb. VI Sci. Nat. 3(2): 617. 1835; Sp. Gram. Ic. 3. *t.* 350. 1836).

Two species were included when the genus was set up. Bentham (*in* Benth. & Hook. Gen. Pl. 3(2): 1208. 1883) said of *Thamnocalamus* Munro: "genus propositum fuit imprimis ad A[rundinariam] spathifloram Rupr. [Trin. intended FAM]." Hackel (*in* Engler & Prantl, Nat. Pflanzenfam. II. 2: 93. 1887) made *Thamnocalamus* a section of the genus *Arundinaria*.

Thyrsostachys Gamble, Indian For. 20: 1. 1894; Ann. Roy. Bot. Gard. Calcutta 7: 58. 1896. — SPECIES TYPICA GENERIS, a Gamble (1894) electa: *T. oliveri* Gamble, l.c. 1894, frontispiece; l.c. 1896. *t.* 50.

Gamble, in 1894, indicated his intention to designate this species as the type in the following words: "The bamboo was discovered by Mr. J. W. Oliver, Conservator of Forests of the Eastern Circle of Upper Burma ... It is, therefore, only appropriate that its name should be *Thyrsostachys Oliveri*." A second species was added in 1896, when the full description and illustration of the genus were first published.

Triglossum F. Fischer, Cat. Jard. Pl. Razoumoffsky a Gorenki 6. 1812. — GENUS PRIMO MONOTYPICUM; species typica generis: *T. bambusinum* F. Fischer, l.c. 8 (see *Arundinaria bambusina* (F. Fischer) Trinius, Fund. Agrost. 97. 1820.)

The genus *Triglossum* is clearly a taxonomic synonym of *Arundinaria* Michaux, Fl. Bor.-Am. 1: 71. 1803.

Yadakeya Makino, Journ. Jap. Bot. 6: 16. 1929. — SPECIES TYPICA GENERIS, nunc electa: *Y. japonica* (Siebold & Zuccarini) Makino (*Arundinaria japonica* Siebold & Zuccarini ex Steudel, Syn. Pl. Glum. 334. 1854).

Two species were included in this genus: *Y. japonica* and *Y. ontakensis;* the first obviously is the one Makino had principally in mind since the generic description is based wholly on that species. Having been based on the same species as *Pseudosasa* Makino ex Nakai, Yadakeya Makino is a nomenclatural (obligate) synonym of *Pseudosasa* (see Nakai, Journ. Jap. Bot. 9: 90. 1933) (ICBN Art. 64. 1956).

Yadakeya Makino ≡ *Pseudosasa* Makino ex Nakai.

NEWS AND NOTES

ADELAIDE HERBARIA

In the latest edition of the "Index Herbariorum" the abbreviation AD is used for the State Herbarium of South Australia and ADU for the herbarium of the Botany Department, University of Adelaide. Dr U. B. S. Womersley now informs us that AD should be used for both collections since the collections of higher plants from the Botany Department are on permanent loan only to the State Herbarium.

* * *

BOTANICAL SOCIETY OF JAPAN

The Botanical Society of Japan (formerly the Botanical Society of Tokyo) celebrates the 75th anniversary this year. The diamond-jubilee meeting will be held in October 12 — 15 at Faculty of Culture, University of Tokyo. The Botanical Magazine (Tokyo), an official publication of the Society, is now in its 70th volume and is published monthly. The Society now consists of 8 regional sections, and besides a general annual meeting, lecture-meetings and excursions are being held separately by those sections.

A.E.T.F.A.T.-INDEX 1956

L'A.E.T.F.A.T.-Index 1956 est sorti de presse. Conçu de la même façon que les précédents, il contient tout ce qui a paru durant l'année 1956 concernant la botanique systématique africaine et malgache prise au sens large.

L'A.E.T.F.A.T.-Index mentionne, en plus des taxa nouveaux, les divisions infraspécifiques, les basonymes des combinaisons nouvelles avec renvoi à la combinaison, l'iconographie ainsi que de nombreuses références de révisions et de travaux intéressants au point de vue taxonomique.

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We have pleasure in announcing the publication of the *A.E.T.F.A.T.-Index 1956*. This *Index* contains references to all that has been published during 1956 on the taxonomic botany in a wide sense of Africa and Madagascar.

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